Distributed Generation Workbook

MISSOURI RIVER ENERGY SERVICES®

December 2015

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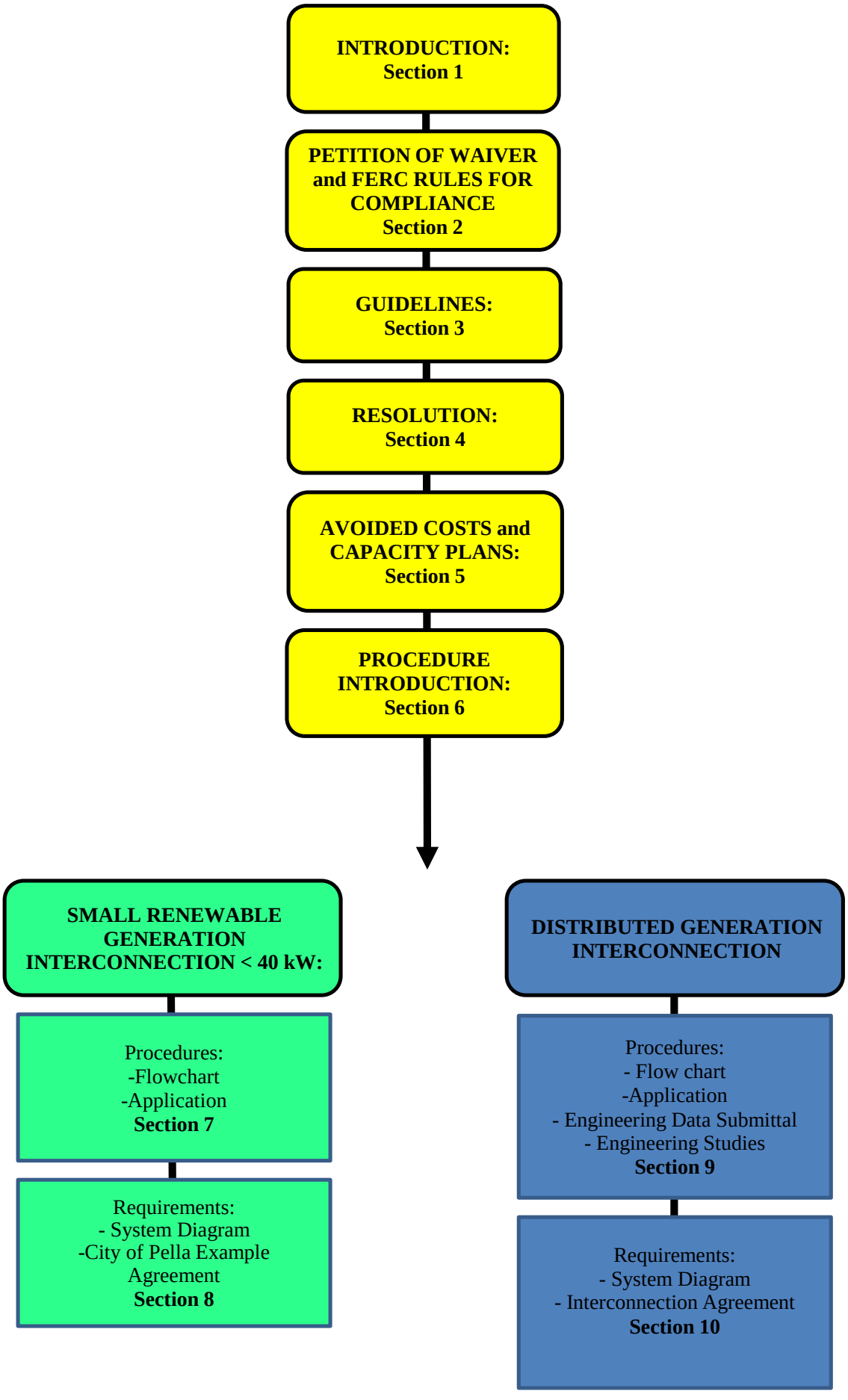

SECTION 1

INTRODUCTION TO
DISTRIBUTED GENERATION INTERCONNECTION
WITH YOUR LOCAL PUBLIC POWER UTILITY - CITY OF PELLA

Local Public Power Electric Utility - City of Pella and Missouri River Energy Services

Your local public power electric utility, City of Pella, is owned by the citizens of the community and operated for the distribution of electric power and energy to the consumer. Wholesale electric power supply is provided to your community by Missouri River Energy Services (MRES).

MRES, a joint action agency, began in the early 1960s as an informal association of northwest Iowa municipalities with their own electric systems, which decided to coordinate their efforts in negotiating power supply. City of Pella (Municipality) has executed a Power Sale Agreement (S-1) with MRES, pursuant to which MRES has agreed to meet Municipality's Power Requirements on an integrated resource system-wide planning basis. The term of the S-1 Agreement was extended to January 1, 2046.

The Public Utilities Regulatory Policies Act of 1978 (PURPA)

PURPA, as amended by the Energy Policy Act of 2005, requires your local utility (MEMBER) to buy power and sell power to any Qualifying Facility (QF) at nondiscriminatory rates. The Federal Energy Regulatory Commission (FERC) has since issued certain rules and regulations which encourage small power production and cogeneration, but are not entirely clear when dealing with local utilities which have entered into long-term arrangements with a power supplier like MRES.

In certain circumstances, PURPA may require a duplication of obligations to buy and sell power with QFs where, for example, cooperatives, joint action agencies, and their respective MEMBERS each have statutory duties under PURPA to interconnect and exchange power with QFs. This means that both MRES and MEMBER could be required to buy generation output of the QF and sell supplemental, backup, and maintenance power to a QF located within the MEMBER service territory.

The MEMBERS and MRES filed a Petition of Waiver with FERC on Section 210 of PURPA and have been granted such from FERC. This limited Waiver continues to protect a QF's legitimate interests under PURPA, while clearing up the confusion as to which entity (the MEMBER or MRES) is best situated to fulfill the PURPA obligations of buying and selling to a QF. This waiver also clears up any possible conflict with the S-1 Agreement that was signed by the MEMBER. As a condition of the waiver, FERC required the MEMBER and MRES to abide by a set of Rules for Compliance in 1994. (See Section 2.) These rules represent general guidelines since the nature, size, and character of QFs can vary widely. Policies have been prepared based upon these Rules for Compliance.

Qualifying Facilities: Cogeneration and Small Power Production

The purpose of PURPA Sections 201 and 210 and the FERC rules is to encourage the use of cogeneration and small production facilities where such devices might utilize alternate fuels and thus might make a significant contribution to the nation's effort to conserve energy resources.

PURPA defines these customer-owned distributed generation devices by dividing them into several categories: small power production facilities, cogeneration facilities, and hydroelectric small power production facilities. Small power production facilities rely on biomass, waste, or renewable resources, including wind, solar, and geothermal to produce electric power. Cogeneration facilities simultaneously produce two forms of useful energy such as electric power and steam. Cogeneration facilities use significantly less fuel to produce electricity and steam (or other forms of energy) than would be needed to produce the two separately. Hydroelectric small power production facilities include a generation facility that impounds or diverts the water of a natural watercourse by means of a new dam or diversion. Any customer-owned generation that meets one of the above descriptions as defined by PURPA and authorized by FERC, will be defined as a QF.

Under the FERC regulations and Petition of Waiver, the MEMBER is generally obligated to interconnect with, and operate in parallel with, a QF. Parallel operation is the operation of on-site generation by a customer while the customer is connected to the MEMBER utility system. The MEMBER is also required to sell electricity to generators who qualify under FERC standard, while MRES is required to purchase electricity from those QFs who qualify under FERC standards. All generation and transmission interconnections sought by QFs must comply with the requirements of the North American Electric Reliability Corporation (NERC), Mid-Continent Area Power Pool (MAPP), and/or other regional transmission providers.

FERC regulations allow the MEMBER and MRES to establish interconnection standards to ensure electrical system safety and reliability. The regulations also make it clear that MRES, MEMBER and its retail customers are not to be detrimentally affected as a result of a customer interconnection. Thus, other customers should not have a higher cost of electricity or lower quality of service because of the QF's interconnection. MRES and the MEMBER will not be required to make uncompensated investments to interconnect with QFs.

As stated by FERC, the purchase rate from QFs is based on the cost that can be avoided by MRES with such purchases, unless a state requires a mandated rate methodology that is applicable to the MEMBER. Avoided costs are classified in two basic components: energy related and capacity related. Energy related avoided costs are those associated with the cost of not burning or purchasing certain fuels. In the near-term, the only costs that can be avoided are those associated with energy, i.e., not burning coal, nuclear fuel, oil, etc. Capacity avoided costs are those associated with the capital cost of adding new generation, of a demand-side management (DSM)/energy efficiency option, or of the demand portion of a wholesale power purchase. If the QF has a reliable capacity value, then MRES will also include a capacity component as part of the purchase rate. Federal regulations require MRES to keep on file avoided cost data for the next five years and to update the data every two years. This can be requested from MRES at any time.

Any prospective customer who wishes to interconnect and operate in parallel with the MEMBER should contact the MEMBER and discuss the generation interconnect with MEMBER staff. A set of documents defines the policies and general requirements for interconnection and parallel operation.

Non-Qualifying Facilities: Standby and Emergency Generation

The MEMBER is not required to allow a customer-owned distributed generation to operate in parallel with the MEMBER electrical system if the generation does not satisfy qualifying status QF requirements. When a customer wishes to install non-qualifying generation, the MEMBER will review these requests on a case-by-case basis. These devices will only be connected to a MEMBER by an approved transfer switch that will break the circuit connected to the MEMBER'S electrical system before making the circuit with the Customer's generation or with a MEMBER-approved closed-transition switch.

SECTION 2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Missouri River Energy Services) FERC Docket No. EL13- ___

PETITION OF MISSOURI RIVER ENERGY SERVICES ON BEHALF OF ITSELF AND ITS MEMBER PELLA, IOWA, FOR WAIVER OF CERTAIN OF THE COMMISSION'S REGULATIONS IMPLEMENTING SECTION 210 OF PURPA

Missouri Basin Municipal Power Agency, doing business as Missouri River Energy Services ("MRES"), on behalf of itself and its member, Pella, Iowa ("Filing Member"),[1] hereby files this Petition for Waiver of Certain of the Regulations of the Federal Energy Regulatory Commission ("Commission") Implementing Section 210 of the Public Utility Regulatory Policies Act of 1978 ("PURPA") (16 U.S.C. § 824a-3), as amended by the Energy Policy Act of 2005 ("EPAct 2005"). This Petition is filed pursuant to Rule 307 of the Commission's Revised General Rules (18 C.F.R. § 375.307), Rules 303 and 402 of the Commission's Regulations implementing section 210 of PURPA (18 C.F.R. §§ 292.303 and 202.402), and Rule 212 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.212).

Specifically, the Filing Member seeks waiver of its obligation under 18 C.F.R. § 292.303(a) to purchase power directly from qualifying facilities ("QFs"). Concurrently, MRES seeks a waiver of its obligation under 18 C.F.R. § 292.303(b) to sell power directly to QFs. As

[1] As explained in Section I, *infra*, the City of Pella, Iowa, on behalf of whom MRES files this Petition, is a municipal member of MRES who has become a member of MRES since MRES originally obtained the same waiver requested herein for its 57 S-1 Members (*i.e.*, MRES members purchasing all of their supplemental requirements from MRES). The Commission previously granted this same waiver to MRES and 52 of its S-1 members in 1994 and to five more of its S-1 members in 2009. A current list of S-1 Members and the Filing Member is attached hereto as Attachment 1.

discussed in further detail in Section I of this Petition, the Commission previously granted these same waivers to MRES and 52 of its S-1 members in 1994 and to five more of its S-1 members in 2009.[2] The Filing Member has signed a Power Sale Agreement with MRES since the Commission granted the original waiver requests of MRES in 1994 and 2009.

Please direct correspondence relating to this request to the following persons:

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* *Denotes person to be designated for service under the Commission's rules.*

[2] *Missouri Basin Mun. Power Agency*, Letter Order, Docket No. EL09-13-000 (Feb. 6, 2009) ("2009 Order"). *Missouri Basin Mun. Power Agency*, 69 FERC ¶ 62,250 (1994). The 2009 Order and the MRES December 1, 2008 Petition approved in the 2009 Order are attached hereto as Attachments 2 and 3, respectively.

I. BACKGROUND AND INTEREST OF MRES AND THE FILING MEMBER

MRES is a municipal joint action agency formed under Chapter 28E of the Iowa Code and existing under the intergovernmental cooperation laws of the states of Iowa, Minnesota, North Dakota, and South Dakota. MRES is comprised of 61 member municipal electric distribution utilities located in these four states.

MRES supplies the supplemental requirements of 57 of its member municipalities under a Power Sale Agreement (S-1 Agreement).[3] The 57 S-1 members and the Filing Member are identified in Attachment 1 to this Petition. Each S-1 Member purchases a fixed amount of electric power and energy from the Department of Energy, Western Area Power Administration ("WAPA"). Under the S-1 Agreement, each S-1 Member is required to purchase, and MRES is required to supply, all of the S-1 Member's requirements for electric power and energy above the amount purchased from WAPA.

Unlike the S-1 Members, the Filing Member purchases all of its electrical requirements from MRES. The Filing Member is required to purchase its requirements from MRES pursuant to a Power Sale Agreement. As with all MRES members, the Filing Member owns and controls its local electric distribution system.

In 1994, MRES requested and was granted the same relief sought herein for itself and on behalf of the 52 S-1 Members it had at that time.[4] In 2008, MRES and five additional S-1

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[3] The 57 S-1 Members consist of the 52 members for which the Commission approved in 1994 the request of MRES for PURPA waivers, along with the five members on behalf of which MRES sought and obtained PURPA waivers from the Commission in 2009.

[4] 1994 Order, *supra* note 2.

Members sought from the Commission the same PURPA waivers (2008 Petition). The Commission granted the waiver request in 2009.[5]

The background, applicable facts, and applicable law are not different in any material respects since the Commission granted the previous waiver requests of MRES in 1994 and 2009. The only material change since that time is that MRES has added a new member that will purchase all of its electric requirements from MRES, and it is this change that has prompted MRES to file this Petition. The basis for this Petition is the same as that relied on in the 1994 Motion and 2008 Petition,[6] which the Commission accepted as constituting circumstances warranting a waiver of the applicable Commission regulations.[7] The Commission's standards for analyzing and granting such requests have not changed in any material respect since the Commission granted the 2008 MRES request.[8] Therefore, MRES is submitting a brief statement of the basis for its request below, and is incorporating by reference the more detailed basis set forth in the 1994 Motion and 2008 Petition, rather than repeating every point made therein. The factual and legal statements made in the 1994 Motion and 2008 Petition, and accepted in the 1994 and 2009 Orders, apply equally to MRES and the Filing Member in 2013 as they did to MRES and the 57 Members to whom the Commission granted these same waivers in 1994 and 2009.

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5 2009 Order, *supra* note 2.

6 *See* Section II of the 2008 Petition, included hereto as Attachment 3.

7 2009 Order, *supra* note 2.

8 The applicable regulatory standard is unchanged since 2009. A waiver of the regulations implementing section 210 of PURPA will be granted where the applicant "demonstrates that compliance with any of the requirements of [the regulation] is not necessary to encourage cogeneration and small power production and is not otherwise required under Section 210 of PURPA." 18 C.F.R. § 292.402(b). *See Central Iowa Power Coop.*, 108 FERC ¶ 61,282 at P 15 (2004). The seminal cases providing guidance and analysis in this area are the same today as in 1994: *Oglethorpe Power Corp.*, 32 FERC ¶ 61,103 (1985), *reh'g granted in part and denied in part*, 35 FERC ¶ 61,069 (1986), *aff'd Greensboro Lumber Co.*, 825 F.2d 518 (D.C. Cir. 1987), and *Seminole Elec. Coop., Inc.*, 39 FERC ¶ 61,354 (1987). *See, e.g., Illinois Mun. Elec. Agency*, 90 FERC ¶ 62,170, at p. 64,231 (2000) (granting waiver where the facts were "essentially the same" as those in *Oglethorpe* and *Seminole*).

II. BASIS FOR MOTION OF MRES AND THE FILING MEMBER

MRES and the Filing Member are non-regulated electric utilities within the meaning of PURPA.[9] Under PURPA and the implementing regulations adopted by the Commission, MRES and the Filing Member have certain obligations with respect to buying power from, and selling power to, QFs. As MRES stated in its 1994 Motion and 2008 Petition, by requesting this waiver, MRES and the Filing Member do not attempt to avoid any PURPA-mandated obligations.[10] Rather, MRES and the Filing Member simply seek to ensure that the entity that is best situated to effect Congress' intent in enacting PURPA (*i.e.*, to develop and encourage QFs) will have the appropriate obligation to buy or sell power.[11] For the reasons stated in the 1994 Motion and 2008 Petition and accepted in the 1994 and 2009 Orders, MRES, as the entity that evaluates and acquires bulk power resources to meet load, is in the best position to purchase power from QFs located within a Member's service territory, while its Members, which provide electric service at retail, are in a better position to provide the interconnection and retail service required by QFs.

A. The Requested Waiver of the 18 C.F.R. § 292.303(a) Purchase Obligation

MRES incorporates by reference Part II.A of its 1994 Motion,[12] on the basis that, as noted above, the arguments made in that section and accepted by the Commission in the 1994 Order apply equally to the Filing Member as they did to the S-1 Members at the time of the 1994 Motion. MRES is responsible, under its Power Sale Agreement with the Filing Member, for providing all of the electric energy of the Filing Member. MRES is, therefore, the interested party for purposes of meeting the PURPA purchase obligation of the Filing Member. As stated

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9 *See* 16 U.S.C. § 2602(9) (PURPA § 3(9)) ("The term 'nonregulated electric utility' means any electric utility other than a State regulated electric utility.").

10 *See* 16 U.S.C. § 824a-3, 18 C.F.R. § 292.303.

11 *See Soyland Power Coop. Inc.*, 50 FERC ¶ 62,072, at p. 63,075 (1990).

12 1994 Motion at 4-6.

in the 1994 Motion and 2008 Petition, MRES and the Filing Member submit that waiver of the Filing Member's obligation under 18 C.F.R. § 292.303(a) to purchase from QFs is proper for the following reasons:

1) Pursuant to this Petition for Waiver of the Filing Member's obligation to purchase from QFs, MRES has committed to make all appropriate purchases from QFs on behalf of the Filing Member.[13]

2) MRES continues to operate under the PURPA Policy Report ("Policy") described in the 1994 Motion,[14] and attached hereto as Attachment 4, which sets forth the obligations of MRES in the event this waiver request is granted. The Filing Member is in the process of adopting the Policy as well.

3) MRES and the Filing Member submit that the granting of this Petition shall not subject a QF to any duplicate interconnection charges or charges for wheeling power to MRES across the transmission lines of a Member.[15]

4) By this Petition and in accordance with the Policy, MRES stands ready and willing to stand in the shoes of the Filing Member to purchase QF power at the MRES full avoided cost.[16]

5) The waiver of this purchase obligation of the Filing Member will not frustrate Congress' intent to encourage QFs under PURPA because no QF will be deprived of a market for its power, and the MRES full avoided cost shall be sufficient to stimulate efficient QF generation.[17]

B. The Requested Waiver of the 18 C.F.R. § 292.303(b) Sales Obligation

MRES incorporates by reference Part II.B of its 1994 Motion[18] on the basis that, as noted above, the arguments made in that section and accepted by the Commission in the 1994 and 2009 Orders apply equally to the Filing Member as they did to the S-1 Members at the time of the

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[13] *See* 2008 Petition at 6, 2009 Order at 3; *see also* 1994 Motion at 4-5, 1994 Order at pp. 64,639-40.

[14] 1994 Motion at 4-5.

[15] *See* 2008 Petition at 6, 2009 Order at 3; *see also* 1994 Motion at 5 (citing *Public Util. Comm'n of Texas*, 50 FERC ¶ 62,125 (1990)), 1994 Order at p. 64,640.

[16] *See* 2008 Petition at 6, 2009 Order at 3; *see also* 1994 Motion at 5-6 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075, along with *Oglethorpe* and *Seminole*, *supra* note 8), 1994 Order at p. 64,640.

[17] *See* 2008 Petition at 6, 2009 Order at 3; *see also*1994 Motion at 6 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075, and *Oglethorpe* and *Seminole*, *supra* note 8); *see generally* 1994 Order.

[18] 1994 Motion at 6-7.

1994 Motion and 2008 Petition. As stated in the 1994 Motion and 2008 Petition, MRES submits that waiver of its obligation under 18 C.F.R. § 292.303(b) to sell directly to QFs is proper for the following reasons:

1) Pursuant to MRES Policy, the Filing Member will adequately meet the obligation of MRES under 18 C.F.R. § 292.303(b) to sell directly to QFs.[19]

2) By this Petition and in accordance with the Policy, the Filing Member will offer supplementary, backup, maintenance, and interruptible power to QFs. The rates for such power will be determined between the Filing Member and a QF, and such rates will be nondiscriminatory, just and reasonable, and in the public interest. As a result, a separate sales requirement for MRES would not significantly further the establishment and development of QFs, and is therefore not necessary.[20]

C. Publication of Notice in Filing Member's Service Area

In accordance with 18 C.F.R. § 292.402(a), MRES has published notice of its intent to file this Petition for Waiver, as well as a description of the Petition, in the Pella Chronicle, the newspaper of general circulation within the service area of the Filing Member. The last publication occurred on June 20, 2013, and no responses have been received. Upon request, MRES will be pleased to provide an affidavit of the publication of such notice in the Filing Member's community.[21]

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[19] *See* 2008 Petition at 7, 2009 Order at 3*; see also* 1994 Motion at 6, 1994 Order at pp. 64,639-40.

[20] *See* 2008 Petition at 7, 2009 Order at 3; *see also* 1994 Motion at 6-7 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075), 1994 Order at pp. 64,639-40.

[21] *See* 2008 Petition at 7-8, 2009 Order at 4; *see also* 1994 Motion at 7, 1994 Order at p. 64,639.

III. RELIEF REQUESTED

WHEREFORE, MRES and the Filing Member respectfully request that the Commission grant this Petition for Waiver of:

1. The Filing Member's obligation under 18 C.F.R. § 292.303(a) to purchase power directly from QFs;

2. The obligation of MRES under 18 C.F.R. § 292.303(b) to sell power directly to QFs; and

3. That MRES and the Filing Member be afforded all other relief deemed appropriate by the Commission.

Respectfully submitted,

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Counsel to Missouri River Energy Services

July 23, 2013

ATTACHMENT 1

List of MRES S-1 members and Filing Member

Attachment 1

The Filing Member and Members of Missouri River Energy Services That are Parties to the Power Sale Agreement (S-1)

Iowa	North Dakota	South Dakota	Minnesota
Alton	Cavalier	Beresford	Adrian
Denison	Hillsboro	Big Stone City	Alexandria
Hartley	Lakota	Brookings	Barnesville
Hawarden	Northwood	Burke	Benson
Kimballton	Valley City	Faith	Breckenridge
Lake Park	Riverdale	Flandreau	Detroit Lakes
Manilla		Ft. Pierre	Elbow Lake
Orange City		Pierre	Henning
Paullina		Vermillion	Jackson
Pella*		Watertown	Lakefield
Primghar		Winner	Lake Park
Remsen		Pickstown	Luverne
Rock Rapids			Madison
Sanborn			Marshall
Shelby			Melrose
Sioux Center			Moorhead
Woodbine			Ortonville
			St. James
			Sauk Centre
			Staples
			Wadena
			Westbrook
			Worthington

*The Filing Member became a member of Missouri River Energy Services since the Commission originally granted MRES's waiver requests in 1994 and 2009. Unlike the S-1 Members, the Filing Member purchases all of its electrical requirements from MRES.

ATTACHMENT 2

2009 FERC Order Granting Petition for Waiver

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

Missouri Basin Municipal Power Agency., *et al.*
Docket No. EL09-13-000

February 6, 2009

Van Ness Feldman, PC
1050 Thomas Jefferson St., NW
Washington, D.C. 2000

Attention: David P. Yaffe, Esq.
Pamela J. Anderson., Esq.
Kevin Gallagher, Esq.

Reference: Missouri Basin Municipal Power Agency -- Request for Partial Waiver of Regulations for Qualifying Cogeneration Facilities

Dear Messrs. Yaffe and Gallagher and Ms. Anderson:

On December 1, 2008, Missouri Basin Municipal Power Agency (Missouri Basin) filed, on behalf of itself and five of its members (Members),[1] a petition for partial waiver of certain of the Commission's regulations implementing section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA),[2] pursuant to section 292.402 of the Commission's regulations.[3] As discussed below, we will grant the applicants' petition.

Background

Members are consumer-owned non-regulated electric utilities.[4] Missouri Basin is a non-regulated generation and transmission cooperative organized by Members. Each seeks waiver of certain electric utility obligations concerning qualifying small power production and cogeneration facilities (QFs). Specifically, Members seek waiver of their

[1] Members of the Missouri Basin that are parties to this petition for waiver include Riverdale, North Dakota; Pickstown, South Dakota; and the Minnesota municipalities of Breckenridge, Marshall and Melrose.

[2] 16 U.S.C. § 824a-3 (2006).

[3] 18 C.F.R. § 292.402 (2008).

[4] Section 3(9) of PURPA defines a non-regulated electric utility as "…any electric utility other than a State regulated electric utility."

obligation, as individual electric utilities under Section 292.303(a) of the Commission's Regulations, to purchase power directly from QFs. Missouri Basin seeks waiver of its obligation, as an electric utility under Section 292.303(b) of the Commission's Regulations, to sell power directly to QFs.

Missouri Basin states that it supplies supplemental requirements (beyond that power purchased as a fixed amount of electric power from the Western Area Power Administration) to 57 of its member municipalities under a power sale agreement dated October 1, 1976 and subsequently amended (October 1976 Sales Agreement). These 57 members consist of the five Members on whose behalf Missouri Basin filed its instant waiver request, and 52 members for which the Commission approved an essentially identical waiver request in 1994.[5] Under the October 1976 Sales Agreement, each member is required to purchase, and Missouri Basin (through an affiliate) is required to supply, all of the member's requirements for electric power above the amount purchased from WAPA. Missouri Basin is not requesting waiver for any members that do not purchase their full supplemental requirements under the October 1976 Sales Agreement.

Missouri Basin states that the background, applicable facts, and applicable law in the instant request are not different in any material respect from the request granted in *Missouri Basin*. Missouri Basin states that the only material change since that time is that five new members have been added to the October 1976 sales agreement, and that it is this change that has prompted the filing of the instant petition. Missouri Basin reiterates that the factual and legal statements made in its petition leading up to *Missouri Basin* apply equally to the five Members as they did to the original 52 members granted waiver in *Missouri Basin*.

Petition for Waiver

Under PURPA and the implementing regulations adopted by the Commission, Missouri Basin and its members have certain obligations with respect to buying power from and selling power to QFs. Missouri Basin states that it does not attempt to avoid any PURPA-mandated obligations, but rather to ensure that the entity that is best situated to effect Congress's intent in enacting PURPA will have the obligation to buy or sell power.[6] Missouri Basin states that, for the reasons relied upon in *Missouri Basin*, Missouri Basin, as the entity that evaluates and acquires bulk power resources to meet load, is in the best position to purchase power from QFs located within a member's

[5] *Missouri Basin* 69 FERC 62,250 (1994). See also *Oglethorpe Power Corporation, et al.*, 32 FERC ¶ 61,103 (1985), *affirmed on rehearing*, 35 FERC ¶ 61,069 (1986), and *Seminole Electric Cooperative, Inc., et al.*, 39 FERC ¶ 61,354 (1987).

[6] *Citing Soyland Power Coop. Inc.*, 50 FERC ¶ 62,072 at 63,075 (1990).

service territory, while its members, which provide electric service at retail, are in a better position to provide the interconnection and retail service required by those QFs.

Missouri Basin states that the waiver of the Members' obligations under 18 C.F.R. § 292.303(a) to purchase from QFs is proper for the following reasons:

1. Pursuant to this Petition for Waiver of the Members' obligation to purchase from QFs, Missouri Basin has committed to make all appropriate purchases from QFs on the behalf of the Members.

2. Missouri Basin continues to operate under the PURPA Policy Report (Policy) described in the 1994 Motion, and attached to the Motion as Exhibit A, which sets forth the obligations of Missouri Basin in the event this waiver request is granted. The Members are in the process of adopting the Policy as well.

3. Missouri Basin and the Members submit that the granting of this Petition shall not subject a QF to any duplicate interconnection charges or charges for wheeling power to Missouri Basin across the transmission lines of a Member.

4. By this Petition and in accordance with the Policy, Missouri Basin stands ready and willing to stand in the shoes of the Members to purchase QF power at the Missouri Basin full avoided cost.

5. The waiver of this purchase obligation of the Members will not frustrate Congress' intent to encourage QFs under PURPA because no QF will be deprived of a market for its power, and the Missouri Basin's full avoided cost shall be sufficient to stimulate efficient QF generation.

Missouri Basin states that the waiver of its obligations under 18 C.F.R. § 292.303(b) to sell directly to QFs is proper for the following reasons:

1. Pursuant to Missouri Basin's Policy, the Members will adequately meet the obligation to Missouri Basin under 18 C.F.R. § 292.303(b) to sell directly to QFs.
2. By this Petition and in accordance with the Policy, the Members will offer supplementary, backup, maintenance, and interruptible power to QFs. The rates for such power will be determined between a Member and a QF, and such rates will be nondiscriminatory, just and reasonable, and in the public interest. As a result, a separate sales requirement for Missouri Basin would not significantly further the establishment and development of QFs, and is therefore not necessary.

Notices and Pleadings

This filing was noticed in the *Federal Register*, 73 Fed. Reg. 76,629 (2008), with protests or motions to intervene due on or before December 31, 2008. None was filed. Missouri Basin also published local notices of the petition for waiver in newspapers of general circulation in the service areas of the Members in compliance with Section 292.402(a) of the Commission's Regulations. Missouri Basin received no responses to the newspaper notices.

Discussion

Taking into account all relevant factors, including the commitments made by the applicants as described above, the requested partial waivers of the Members' purchase obligations and Missouri Basin's sales obligation are granted.

This action is taken pursuant to authority delegated to the Director, Division of Tariffs and Market Development - West under 18 C.F.R. § 375.307(a)(6)(iii) (2008). This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713 (2008).

If you have any questions concerning this order, please contact Chris Jones at (202)502-6689.

Sincerely,

Steve P. Rodgers, Director
Division of Tariffs and Market
Development - West

cc: Thomas Heller
Jeff Peters
Missouri River energy Services
P.O. Box 88920
Sioux Falls, SD 57109-8920

Document Content(s)

ATTACHMENT 3

2008 MRES Petition for Waiver

ORIGINAL

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Missouri River Energy Services) FERC Docket No. EL09-13-000

PETITION OF
MISSOURI RIVER ENERGY SERVICES
ON BEHALF OF ITSELF AND FIVE OF ITS MEMBERS
FOR WAIVER OF CERTAIN OF
THE COMMISSION'S REGULATIONS
IMPLEMENTING SECTION 210 OF PURPA

Missouri Basin Municipal Power Agency, ~~doing business as Missouri River Energy Services~~ ("MRES"), on behalf of itself and five of its members, Riverdale, North Dakota; Pickstown, South Dakota; and Breckenridge, Marshall and Melrose, Minnesota ("Filing Members"),[1] hereby files this Petition for Waiver of Certain of the Regulations of the Federal Energy Regulatory Commission ("Commission") Implementing Section 210 of the Public Utility Regulatory Policies Act of 1978 ("PURPA") (16 U.S.C. § 824a-3), as amended by the Energy Policy Act of 2005 ("EPAct 2005"). This Petition is filed pursuant to Rule 307 of the Commission's Revised General Rules (18 C.F.R. § 375.307), Rules 303 and 402 of the Commission's Regulations implementing section 210 of PURPA (18 C.F.R. §§ 292.303 and 292.402), and Rule 212 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.212).

[1] As explained in Section I, *infra*, the MRES Members on behalf of whom MRES files this Petition, Riverdale, North Dakota; Pickstown, South Dakota; and Breckenridge, Marshall and Melrose, Minnesota, are municipal members of MRES who have become S-1 Members (*i.e.*, MRES members purchasing all of their supplemental requirements from MRES) since MRES originally obtained the same waiver requested herein for its 52 S-1 Members in 1994. At that time, MRES was known as Missouri Basin Municipal Power Agency ("MBMPA"). MBMPA adopted the trade name Missouri River Energy Services for purposes of doing business in 1998. For purposes of clarity, MRES will be used hereinafter. A current list of S-1 Members, including the Filing Members, is attached hereto as Attachment 1.

Specifically, the Filing Members seek waiver of their obligations under 18 C.F.R. § 292.303(a) to purchase power directly from qualifying facilities ("QFs"). Concurrently, MRES seeks waiver of its obligation under 18 C.F.R. § 292.303(b) to sell power directly to QFs. As discussed in further detail in Section I of this Petition, the Commission previously granted these same waivers to MRES and its 52 S-1 members in 1994.[2] The instant Filing Members have become signatories to the Power Sale Agreement (S-1) with MRES since the Commission granted the original waiver request of MRES in 1994.

Please direct correspondence relating to this request to the following persons:

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* *Denotes person to be designated for service under the Commission's rules.*

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[2] *Missouri Basin Mun. Power Agency*, 69 FERC ¶ 62,250 (1994) ("1994 Order"). The 1994 Order and the MRES September 16, 1994 motion ("1994 Motion") approved in the 1994 Order are attached hereto as Attachments 2 and 3, respectively. Note that although the 1994 Motion was filed in Docket No. IR-1534-000, the 1994 Order was issued in Docket No. IR-1096-001.

I. BACKGROUND AND INTEREST OF MRES AND THE FILING MEMBERS

MRES is a municipal joint action agency formed under Chapter 28E of the Iowa Code and existing under the intergovernmental cooperation laws of the states of Iowa, Minnesota, North Dakota, and South Dakota. MRES is comprised of 60 member municipalities from those four states, each of which operates its own electric system.

MRES supplies the supplemental requirements of 57 of its member municipalities under a Power Sale Agreement (S-1), dated as of October 1, 1976, as amended and restated as of January 1, 1993, and as amended and restated as of January 1, 2007.[3] The 57 S-1 members, including the Filing Members, are identified in Attachment 1 to this Petition.[4] As their first increment of power supply, each S-1 Member purchases a fixed amount of electric power and energy from the Department of Energy, Western Area Power Administration ("WAPA"). Under the Power Sale Agreement (S-1), each S-1 Member is required to purchase, and MRES is required to supply, all of the S-1 Member's requirements for electric power and energy above the amount purchased from WAPA. MRES is not requesting the waiver sought in this Petition for those members of MRES that do not purchase their full supplemental requirements under the Power Sale Agreement (S-1).

In 1994, MRES requested and was granted the same relief sought herein for itself and on behalf of the 52 S-1 Members it had at that time.[5] The background, applicable

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[3] The 57 S-1 Members consist of the 52 members for which the Commission approved in 1994 the request of MRES for PURPA waivers, along with the five Filing Members on behalf of which MRES requests the same PURPA waiver in the instant Petition.

[4] Attachment 1 to this Petition updates Appendix A to the 1994 Motion by adding the five Filing Members.

[5] 1994 Order, *supra* note 2.

facts, and applicable law are not different in any material respects as compared to the time of the 1994 Motion and the Commission's 1994 Order granting the waiver requested in the 1994 Motion. The only material change since that time is that MRES has added five new S-1 Members, and it is this change that has prompted MRES to file this Petition. The basis for this Petition is the same as that relied on in the 1994 Motion,[6] which the Commission accepted as constituting circumstances warranting a waiver of the applicable Commission regulations.[7] The Commission's standards for analyzing and granting such requests have not changed in any material respect since the Commission granted the 1994 MRES request.[8] Therefore, MRES is submitting a brief statement of the basis for its request below, and is incorporating by reference the more detailed basis set forth in the 1994 Motion, rather than repeat every point made therein. The factual and legal statements made in the 1994 Motion and accepted in the 1994 Order apply equally to MRES and the five Filing Members in 2008 as they did to MRES and the 52 Members granted these same waivers in 1994.

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[6] *See* Section II of the 1994 Motion, included hereto as Attachment 3.

[7] 1994 Order, *supra* note 2.

[8] The applicable regulatory standard is unchanged since 1994, despite the PURPA revisions mandated by EPAct 2005 and the Commission's subsequent implementation of the new PURPA requirements. A waiver of the regulations implementing section 210 of PURPA will be granted where the applicant "demonstrates that compliance with any of the requirements of [the regulation] is not necessary to encourage cogeneration and small power production and is not otherwise required under Section 210 of PURPA." 18 C.F.R. § 292.402(b). *See Central Iowa Power Coop.*, 108 FERC ¶ 61,282 at P 15 (2004). The seminal cases providing guidance and analysis in this area are the same today as in 1994: *Oglethorpe Power Corp.*, 32 FERC ¶ 61,103 (1985), *reh'g granted in part and denied in part*, 35 FERC ¶ 61,069 (1986), *aff'd Greensboro Lumber Co.*, 825 F.2d 518 (D.C. Cir. 1987), and *Seminole Elec. Coop., Inc.*, 39 FERC ¶ 61,354 (1987). *See, e.g., Illinois Mun. Elec. Agency*, 90 FERC ¶ 62,170, at p. 64,231 (2000) (granting waiver where the facts were "essentially the same" as those in *Oglethorpe* and *Seminole*).

II. BASIS FOR MOTION OF MRES AND THE FILING MEMBERS

MRES and the Filing Members are non-regulated electric utilities within the meaning of PURPA.[9] Under PURPA and the implementing regulations adopted by the Commission, MRES and the Filing Members have certain obligations with respect to buying power from, and selling power to, QFs. As MRES stated in its 1994 Motion, by requesting this waiver, MRES and the Filing Members do not attempt to avoid any PURPA-mandated obligations.[10] Rather, MRES and the Filing Members simply seek to ensure that the entity that is best situated to effect Congress' intent in enacting PURPA (*i.e.*, to develop and encourage QFs) will have the appropriate obligation to buy or sell power.[11] For the reasons stated in the 1994 Motion and accepted in the 1994 Order, MRES, as the entity that evaluates and acquires bulk power resources to meet load, is in the best position to purchase power from QFs located within a Member's service territory, while its Members, which provide electric service at retail, are in a better position to provide the interconnection and retail service required by those QFs.

A. The Requested Waiver of the 18 C.F.R. § 292.303(a) Purchase Obligation

MRES incorporates by reference Part II.A of its 1994 Motion,[12] on the basis that, as noted above, the arguments made in that section and accepted by the Commission in the 1994 Order apply equally to the five Filing Members as they did to the S-1 Members at the time of the 1994 Motion. MRES is responsible under the S-1 contract for providing all of the electric energy of its 57 S-1 Members, including the Filing Members,

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9 *See* 16 U.S.C. § 2602(9) (PURPA § 3(9)) ("The term 'nonregulated electric utility' means any electric utility other than a State regulated electric utility.").

10 *See* 16 U.S.C. § 824a-3, 18 C.F.R. § 292.303.

11 *See Soyland Power Coop. Inc.*, 50 FERC ¶ 62,072, at p. 63,075 (1990).

12 1994 Motion at 4-6.

that the S-1 Members do not purchase from WAPA. MRES is, therefore, the interested party for purposes of meeting the PURPA purchase obligation of the Filing Members.[13] As stated in the 1994 Motion, MRES and the Filing Members submit that waiver of the Filing Members' obligations under 18 C.F.R. § 292.303(a) to purchase from QFs is proper for the following reasons:

1) Pursuant to this Petition for Waiver of the Filing Members' obligation to purchase from QFs, MRES has committed to make all appropriate purchases from QFs on behalf of the Filing Members.[14]

2) MRES continues to operate under the PURPA Policy Report ("Policy") described in the 1994 Motion,[15] and attached to the 1994 Motion as Exhibit A,[16] which sets forth the obligations of MRES in the event this waiver request is granted. The Filing Members are in the process of adopting the Policy as well.

3) MRES and the Filing Members submit that the granting of this Petition shall not subject a QF to any duplicate interconnection charges or charges for wheeling power to MRES across the transmission lines of a Member.[17]

4) By this Petition and in accordance with the Policy, MRES stands ready and willing to stand in the shoes of the Filing Members to purchase QF power at the MRES full avoided cost.[18]

5) The waiver of this purchase obligation of the Filing Members will not frustrate Congress' intent to encourage QFs under PURPA because no QF will be deprived of a market for its power, and the MRES full avoided cost shall be sufficient to stimulate efficient QF generation.[19]

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[13] Minnesota has a statute intended to encourage cogeneration, small power production and net metering which requires a municipal electric utility to purchase all energy and capacity made available by a QF having less than 40 kW of capacity. (Minn. Stat. § 216B.164) Meeting the PURPA purchase obligation of its Minnesota members is consistent with the Minnesota statute. (See, Minn. Stat. § 216B.164 subd. 3(d)).

[14] *See id.* at 4-5, 1994 Order at pp. 64,639-40.

[15] 1994 Motion at 4-5.

[16] The 1994 Motion, along with Exhibit A to that motion, are included hereto as Attachment 2.

[17] *See id.* at 5 (citing *Public Util. Comm'n of Texas*, 50 FERC ¶ 62,125 (1990)), 1994 Order at p. 64,640.

[18] *See* 1994 Motion at 5-6 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075, along with *Oglethorpe* and *Seminole*, *supra* note 8), 1994 Order at p. 64,640.

[19] *See* 1994 Motion at 6 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075, and *Oglethorpe* and *Seminole*, *supra* note 8); *see generally* 1994 Order.

B. The Requested Waiver of the 18 C.F.R. § 292.303(b) Sales Obligation

MRES incorporates by reference Part II.B of its 1994 Motion[20] on the basis that, as noted above, the arguments made in that section and accepted by the Commission in the 1994 Order apply equally to the five Filing Members as they did to the S-1 Members at the time of the 1994 Motion. As stated in the 1994 Motion, MRES submits that waiver of its obligation under 18 C.F.R. § 292.303(b) to sell directly to QFs is proper for the following reasons:

1) Pursuant to MRES Policy, the Filing Members will adequately meet the obligation of MRES under 18 C.F.R. § 292.303(b) to sell directly to QFs.[21]

2) By this Petition and in accordance with the Policy, the Filing Members will offer supplementary, backup, maintenance, and interruptible power to QFs. The rates for such power will be determined between a Filing Member and a QF, and such rates will be nondiscriminatory, just and reasonable, and in the public interest. As a result, a separate sales requirement for MRES would not significantly further the establishment and development of QFs, and is therefore not necessary.[22]

C. Publication of Notice in Filing Members' Service Areas

In accordance with 18 C.F.R. § 292.402(a), MRES has published notice of its intent to file this Petition for Waiver, as well as a description of the Petition, in newspapers of general circulation within the service areas of the Filing Members. The last publication occurred on October 29, 2008, and no responses have been received.

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[20] 1994 Motion at 6-7.

[21] *See* 1994 Motion at 6, 1994 Order at pp. 64,639-40.

[22] *See* 1994 Motion at 6-7 (citing *Soyland Power Coop.*, 50 FERC at p. 63,075), 1994 Order at pp. 64,639-40.

Upon request, MRES will be pleased to provide affidavits of the publication of such notice in all Filing Member communities.[23]

III. RELIEF REQUESTED

WHEREFORE, MRES and the Filing Members respectfully request that the Commission grant this Petition for Waiver of:

1. The Filing Members' obligation under 18 C.F.R. § 292.303(a) to purchase power directly from QFs;

2. The obligation of MRES under 18 C.F.R. § 292.303(b) to sell power directly to QFs; and

3. That MRES and the Filing Members be afforded all other relief deemed appropriate by the Commission.

Respectfully submitted,

David P. Yaffe
Pamela J. Anderson
Kevin Gallagher
1050 Thomas Jefferson St., NW
Washington, DC 20007
Phone: (202) 298-1800
Fax: (202) 338-2361

Counsel to Missouri River Energy Services

December 1, 2008

[23] *See* 1994 Motion at 7, 1994 Order at p. 64,639.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Missouri River Energy Services) Docket No. EL08- ___

Notice of Petition for Waiver of Certain of the
Commission's Regulations Implementing Section 210 of PURPA

(December __, 2008)

Take notice that on December 1, 2008, Missouri Basin Municipal Power Agency d/b/a Missouri River Energy Services (hereinafter "MRES"), filed a petition seeking, pursuant to 18 C.F.R. § 292.402, a waiver of certain obligations imposed under Sections 292.303(a) and 292.303(b) of the Commission's Regulations (18 C.F.R. Part 292 Subpart C) which implement Section 210 of the Public Utility Regulatory Policies Act of 1978 ("PURPA"), as amended by the Energy Policy Act of 2005. MRES has duly implemented the Commission's PURPA Regulations by filing a PURPA implementation plan on March 1, 1982, as amended on May 19, 1994.

MRES requests a waiver on behalf of five of its members: Riverdale, North Dakota; Pickstown, South Dakota; and Breckenridge, Marshall, and Melrose, Minnesota ("Filing Members"). Specifically, MRES seeks a waiver of the requirement contained in 18 C.F.R. § 292.303(a) which would require the Filing Members to purchase power made available from any qualifying facility ("QF") and of the obligation in 18 C.F.R. § 292.303(b) which would require MRES to make sales to any QF. MRES believes that purchases by the Filing Members from QFs or sales by MRES to QFs are unnecessary to encourage cogeneration or small power production and are not otherwise required by Section 210 of PURPA.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. §§ 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate, pursuant to 18 C.F.R. § 385.214. Anyone filing an intervention or protest must serve a copy of that document on the Applicant. Anyone filing an intervention or protest on or before the intervention or protest date need not serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington,

D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Kimberly D. Bose
Secretary

ATTACHMENT 1

Attachment 1

Members of Missouri River Energy Services
That are Parties to the Power Sale Agreement (S-1)

Iowa	North Dakota	South Dakota	Minnesota
Alton	Cavalier	Beresford	Adrian
Denison	Hillsboro	Big Stone City	Alexandria
Hartley	Lakota	Brookings	Barnesville
Hawarden	Northwood	Burke	Benson
Kimballton	Valley City	Faith	Detroit Lakes
Lake Park	Riverdale*	Flandreau	Elbow Lake
Manilla		Ft. Pierre	Henning
Orange City		Pierre	Jackson
Paullina		Vermillion	Lakefield
Primghar		Watertown	Lake Park
Remsen		Winner	Luverne
Rock Rapids		Pickstown*	Madison
Sanborn			Moorhead
Shelby			Ortonville
Sioux Center			St. James
Woodbine			Sauk Centre
			Staples
			Wadena
			Westbrook
			Worthington
			Breckenridge*
			Marshall*
			Melrose*

*These members have become signatories to the Power Sale Agreement (S-1) since the Commission originally granted MRES's waiver request in 1994.

ATTACHMENT 2

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Missouri Basin Municipal Power Agency et al.) Docket No. IR-1096-001

ORDER GRANTING PETITION FOR WAIVER
(Issued December 22, 1994)

On September 16, 1994, the Missouri Basin Municipal Power Agency (Missouri Basin), on its own behalf and on behalf of 52 of its members (Members), 1/ filed a petition for waiver pursuant to Section 292.402 of the Commission's Regulations implementing Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA). 2/ Members are consumer-owned non-regulated electric utilities. 3/ Missouri Basin is a non-regulated generation and transmission cooperative organized by Members. Each seeks waiver of certain electric utility obligations concerning qualifying small power production and cogeneration facilities (QFs). Specifically, Members seek waiver of their obligation, as individual electric utilities under Section 292.303(a) of the Commission's Regulations, to purchase power directly from QFs. Missouri Basin seeks waiver of its obligation, as an electric utility under Section 292.303(b) of the Commission's Regulations, to sell power directly to QFs.

Notice of the petition for waiver was published in the Federal Register with comments, protests or motions to intervene

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1/ Members of the Missouri Basin that are parties to this petition for waiver include the Iowa municipalities of Alton, Denison, Hartley, Hawarden, Kimballton, Lake Park, Manilla, Orange City, Paullina, Primghar, Remsen, Rock Rapids, Sanborn, Shelby, Sioux Center and Woodbine; the Minnesota municipalities of Adrian, Alexandria, Barnesville, Benson, Detroit Lakes, Elbow Lake, Henning, Jackson, Lakefield, Lake Park, Luverne, Madison, Moorhead, Ortonville, St. James, Sauk Centre, Staples, Wadena, Westbrook, and Worthington; the North Dakota municipalities of Cavalier, Hillsboro, Lakota, Northwood and Valley City; and the South Dakota municipalities of Beresford, Big Stone City, Brookings, Burke, Faith, Flandreu, Ft. Pierre, Pierre, Vermillion, Watertown and Winner.

2/ 16 U.S.C. 2601 et seq.

3/ Section 3(9) of PURPA defines a non-regulated electric utility as "...any electric utility other than a State regulated electric utility."

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due on or before October 11, 1994. 4/ No responses were received. Missouri Basin also published local notices of the petition for waiver in newspapers of general circulation in the service areas of the Members in compliance with Section 292.402(a) of the Commission's Regulations. Missouri Basin received no responses to the newspaper notices.

Missouri Basin is an electric generation and transmission cooperative which does not sell electricity at retail. Missouri Basin provides wholesale power and energy to the Members, who are obligated to purchase all of their electricity requirements, except for the entitlement to a fixed amount of electric power and energy from the Western Area Power Administration, from Missouri Basin. Members, who have no generation resources of their own, wish to have Missouri Basin act as their agent to make purchases from QFs on their behalf. For their part, Members will provide supplementary, backup, maintenance, and interruptible power to a QF upon request.

The facts of this case are essentially the same as those in Oglethorpe Power Corporation, et al. (Oglethorpe), 32 FERC ¶ 61,103 (1985), affirmed on rehearing, 35 FERC ¶ 61,069 (1986), and Seminole Electric Cooperative, Inc., et al. (Seminole) 39 FERC ¶ 61,354 (1987). Consistent with Oglethorpe and Seminole, Missouri Basin and Members are granted a limited exemption from the requirements of Sections 292.303(a) and 292.303(b) of the Commission's Regulations pertaining to obligations of electric utilities.

The Director:

Grants the petition for waiver filed on September 16, 1994, by Missouri Basin and Members, pursuant to Section 292.402 of the Commission's Regulations pertaining to Members' purchase obligations under Section 292.303(a) and Missouri Basin's sales obligation under Section 292.303(b) of the Commission's Regulations implementing PURPA, subject to the following conditions:

1. Missouri Basin shall permit any QF to interconnect with the electric system of Missouri Basin. No QF will be subject to duplicative interconnection charges or charges for wheeling power to Missouri Basin across the lines of a Member or any other entity.

2. Members shall permit any QF to interconnect with the transmission system or distribution system of any

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4/ 59 Fed. Reg. 51,424 (1994).

Member. No QF will be subject to duplicative interconnection charges or charges for wheeling of backup power from an individual Member.

3. Missouri Basin shall be ready and willing to purchase energy and capacity at rates which comply with Part 292 from any QF from which a Member would otherwise be required to purchase. No QF will be subject to any duplicative charges or additional fees as a result of Missouri Basin's purchase of power from a QF that would otherwise be purchased by an individual Member.

4. Members shall be ready and willing to provide to any QF, upon request, supplementary, backup, maintenance, and interruptible power on either a firm or nonfirm basis at rates which comply with Part 292.

Authority to act on this matter is delegated to the Director, Division of Applications pursuant to Section 375.308 of the Commission's Regulations.

This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. Section 385.713.

Donald J. Gelinas, Director
Division of Applications

ATTACHMENT 3

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ORIGINAL

Duncan & Allen
COUNSELLORS AT LAW

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Telephone (202) 289-8400
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FEDERAL ENERGY REGULATORY COMMISSION

September 16, 1994

IR-1534-000

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Re: Motion of Missouri Basin Municipal Power Agency

Dear Ms. Cashell:

Enclosed for filing of an original and 14 copies of the "Motion of Missouri Basin Municipal Power Agency, on Behalf of Itself and 52 of its Members for Waiver of Certain of the Commission's Regulations Implementing Section 210 of PURPA." The motion contains two attachments. Also enclosed is a form of notice of the motion. Please time-stamp and return the two additional copies of these documents enclosed herewith.

Missouri Basin Municipal Power Agency "MBMPA" is a body politic and corporate and thus a municipality within the meaning of the Federal Power Act. It is therefore exempt from any filing fee requirement. Moreover, it is MBMPA's understanding that no filing fee is required for actions of the type requested under 18 C.F.R. Part 381. Please contact the undersigned if you have any questions.

Thank you for your cooperation.

Sincerely,

David P. Yaffe
Counsel for Missouri Basin
Municipal Power Agency

Enclosures

Kirk Randall

SEP 16 1994

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UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

In the matter of Missouri Basin Municipal Power Agency, et al.	FERC Docket No. IR-1534-000

MOTION OF
MISSOURI BASIN MUNICIPAL POWER AGENCY
ON BEHALF OF ITSELF AND 52 OF ITS MEMBERS
FOR WAIVER OF CERTAIN OF
THE COMMISSION'S REGULATIONS
IMPLEMENTING SECTION 210 OF PURPA

Missouri Basin Municipal Power Agency ("MBMPA"), on behalf of itself and its Members ("Members")1/, hereby files this Motion for Waiver of Certain of the Federal Energy Regulatory Commission's ("Commission") Regulations Implementing Section 210 of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. § 824a-3) ("PURPA"). This motion is filed pursuant to Rule 308 of the Commission's General Rules (18 C.F.R. § 375.308), Rules 303 and 402 of the Commission's Regulations implementing Section 210 of PURPA (18 C.F.R. §§ 292.303 and 292.402), and Rule 212 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.212).

1/ As explained in Section I of this Motion, infra, the Members of MBMPA are 52 of the 58 municipal members of MBMPA which purchase all of their supplemental requirements from MBMPA. The list of these members is attached to this Motion as Appendix A.

Specifically, MBMPA's Members seek waiver of their obligations under 18 C.F.R. § 292.303(a) to purchase power directly from qualifying facilities ("QF"). Concurrently, MBMPA seeks waiver of its obligation under 18 C.F.R. § 292.303(b) to sell power directly to QFs.

The persons to whom correspondence relating to this docket should be addressed are as follows:

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General Manager
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and

David P. Yaffe, Esq.
Duncan & Allen
1575 Eye Street, N.W., #300
Washington, D.C. 20005-1175
(Telephone: 202/289-8400)

I. NATURE OF INTEREST OF MBMPA AND ITS MEMBERS

MBMPA is a municipal joint action agency formed under Chapter 28E of the Iowa Code and existing under the joint action laws of the States of Minnesota, North Dakota and South Dakota. MBMPA is comprised of 58 member municipalities from those four states, each of which operates its own electric system.

MBMPA supplies the supplemental requirements of 52 of its member municipalities under a Power Sale Agreement (S-1), as amended and restated as of January 1, 1993. These

Members are identified in Appendix A to this motion. As their first increment of power supply, these Members purchase a fixed amount of electric power and energy from the Department of Energy, Western Area Power Administration ("WAPA"). Under the Power Sale Agreement (S-1), each Member is required to purchase and MRMPA is required to supply all of the Member's requirements for electric power and energy above the amount purchased from WAPA. In general, MRMPA effects transmission of the electric power and energy sold under the Power Sale Agreement (S-1) through wheeling agreements between the Members and transmission owners. MRMPA is not currently requesting the relief set forth in this motion for those members that do not purchase their full supplemental requirements under a Power Sale Agreement (S-1).

II. BASIS FOR MOTION OF MRMPA AND ITS MEMBERS

MRMPA and its Members are consumer-owned electric utilities located in the States of Iowa, Minnesota, North Dakota and South Dakota and as such are nonregulated electric utilities within the meaning of the Federal Power Act as amended by provisions of PURPA other than Section 210. See 16 U.S.C. §796(22). PURPA and the implementing regulations adopted by the Commission and codified at 18 C.F.R. Part 292, subject MRMPA and its Members to certain obligations with respect to buying from, and selling power to, qualifying

facilities. See 16 U.S.C. §824a-3 and 18 C.F.R. § 292.303. By this motion, MBMPA and its Members do not attempt to avoid any PURPA-mandated obligations. Rather, MBMPA and its Members simply seek to ensure that the entity best situated to act pursuant to Congress' intent in enacting PURPA, i.e., to develop and encourage QFs, will have the appropriate obligation to buy or sell power. Soyland Power Cooperative, Inc., et al., 50 FERC ¶ 62,072 at 63,075. Since MBMPA is charged by its Members to provide their supplemental power requirements, it, rather than the members, is in the business of evaluating and acquiring the type of bulk power resources required to meet its load. Therefore, it is in the best position to purchase power from QFs. Conversely, its Members, which provide electric service at retail, are in a better position to provide the interconnection and retail service required by QFs.

A. The Requested Waiver of Section 292.303(a)

Pursuant to this request for waiver of the obligations of the Members to purchase from QFs, MBMPA has committed to make all appropriate purchases from QFs on behalf of its Members. MBMPA and its Members filed with the Commission the MBMPA PURPA Policy Report ("Policy"), which was adopted by the Board of Directors of MBMPA on January 15, 1981. On May 19, 1994, MBMPA adopted a new policy which would

be commensurate with its obligations if the waiver is granted. A copy of that new Policy is attached hereto as Exhibit A. MBMPA's Members are in the process of adopting the new policy as well.

The Policy provides that MBMPA will purchase energy offered by QFs. Policy, § 3.1. MBMPA will purchase energy from QFs exceeding 100 kw at either a negotiated rate, or if none is negotiated, at a rate equal to MBMPA's full avoided costs. Policy, § 4.3. The nature of MBMPA's obligations to purchase and pay for capacity from QFs according to the requirements of 18 C.F.R. § 292.303(a) are reflected in the Policy at § 4.5. MBMPA and its Members further commit to interconnect with any QF that appropriately requests interconnection in accordance with PURPA. Policy, § 1.4, Article 3. Moreover, MBMPA and its Members submit that the granting of this Motion for Waiver shall not subject a QF to any duplicate interconnection charges or charges for wheeling power to MBMPA across the transmission lines of a Member. Public Utility Commission of Texas, 50 FERC ¶ 62,125 (1990).

By this motion and in accordance with the Policy, MBMPA stands ready and willing to stand in the shoes of its Members to purchase QF power at MBMPA's full avoided cost. Soyland Power Cooperative, Inc., et al., 50 FERC at 63,075, citing Oglethorpe Power Corp., et al., 32 FERC ¶ 61,103 (1985), aff'd on rehearing, 35 FERC ¶ 61,069 (1986) and

Seminole Electric Cooperative, Inc., et al., 39 FERC ¶ 61,354 (1987). The waiver of the purchase obligation of the Members will not frustrate Congress' intent to encourage QFs under PURPA because (i) no QF will be deprived of a market for its power and (ii) MBMPA's full avoided cost shall be sufficient to stimulate efficient QF generation. Id. Accordingly, MBMPA and its Members respectfully request that the Commission grant a waiver of the Members' obligation under 18 C.F.R. § 292.303(a) to purchase QF power.

B. The Requested Waiver of Section 292.303(b)

MBMPA's PURPA Policy also states that (i) the Members have the responsibility to sell power to QFs and (ii) MBMPA is not intended to have any such responsibility. Policy, § 1.4. Consequently, MBMPA seeks a waiver of any obligation under 18 C.F.R. § 292.303(b) to sell directly to QFs because the Members will adequately meet such an obligation in accordance with PURPA.

By this motion and in accordance with the Policy, each of the Members will offer supplementary, backup, maintenance, and interruptible power to QFs. Soyland Power Cooperative, Inc., et al., 50 FERC at 63,075. The rates for such power will be determined between a Member and a QF and will be nondiscriminatory, just and reasonable, and in the public interest. Id. As a result, a separate sale require-

ment for MBMPA is not necessary in this instance because that requirement would not significantly further the establishment and development of QFs. Id. Accordingly, MBMPA and its Members respectfully request that the Commission grant a waiver of MBMPA's obligation under 18 C.F.R. § 292.303(b) to sell power to QFs.

C. Publication of Notice in Members' Service Areas

MBMPA has published notice of its intent to file this motion for waiver as well as a description of the motion in newspapers of general circulation within the service area of the Members. The last publication occurred on August 3, 1994 and no responses have been received. MBMPA will be pleased to provide affidavits of publication of the notice in all applicable Member communities upon request.

III. RELIEF REQUESTED

WHEREFORE, MBMPA and its Members respectfully request that the Commission grant this Motion for Waiver of:

1. MBMPA's Members' obligation under 18 C.F.R. § 292.303(a) of the Commission's Regulations to purchase power directly from Qualifying Facilities;

2. MBMPA's obligation under 18 C.F.R. § 292.303(b) to sell power directly to QFs; and

3. that MBMPA and its Members be afforded all other relief deemed appropriate by the Commission.

Respectfully submitted,

David F. Rafferty, Esq.
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Washington, D.C. 20005
Telephone: (202) 289-8400

Counsel to Missouri Basin
Municipal Power Agency

September 16, 1994
Washington, D.C.

APPENDIX A

Members of Missouri Basin Municipal Power Agency That Are Parties to the Power Sale Agreement (S-1)

Iowa	North Dakota	South Dakota	Minnesota
Alton	Cavalier	Beresford	Adrian
Denison	Hillsboro	Big Stone City	Alexandria
Hartley	Lakota	Brookings	Barnesville
Hawarden	Northwood	Burke	Benson
Kimballton	Valley City	Faith	Detroit Lakes
Lake Park		Flandreau	Elbow Lake
Manilla		Ft. Pierre	Henning
Orange City		Pierre	Jackson
Paullina		Vermillion	Lakefield
Primghar		Watertown	Lake Park
Remsen		Winner	Luverne
Rock Rapids			Madison
Sanborn			Moorhead
Shelby			Ortonville
Sioux Center			St. James
Woodbine			Sauk Centre
			Staples
			Wadena
			Westbrook
			Worthington

EXHIBIT A

RULES FOR COMPLIANCE WITH FEDERAL ENERGY REGULATORY COMMISSION ORDER NO. 69 COGENERATION AND SMALL POWER PRODUCTION

1. Introduction

1.1 The Public Utility Regulatory Policies Act of 1978 (PURPA), under Section 210, requires the Federal Energy Regulatory Commission (FERC) to develop rules which encourage Cogeneration and Small Power Production. Pursuant to Section 210, regulations have been prepared by FERC and published in the Federal Register (45 FR 12214, February 25, 1980). Missouri Basin Municipal Power Agency ("Utility") and its member municipal utilities ("Member") which are nonregulated electric utilities will implement, to the extent possible, the procedures and requirements of FERC Order no. 69, pursuant to these rules.

1.2 These rules apply to all entities willing and able to enter into an agreement with the Utility and its Members. Provisions of these rules shall not supersede existing contracts. Entities who have the status of "qualifying small power production facility" and/or "qualifying cogeneration facility" hereinafter referred to collectively as qualifying facility, pursuant to FERC Order No. 70 (45 FR 17959, March 20, 1980) are eligible to apply for service under these rules.

1.3 These rules represent general guidelines since the nature, size and character of qualifying facilities can vary widely. The Utility reserves the right to evaluate qualifying facilities on a case by case basis.

1.4 The Utility is a wholesale supplier of power and energy to municipal Utilities; and as such, has no sales other than sales for resale. Qualifying facilities which seek to do business with the Utility shall interconnect with the Members, since the Utility has no sales for retail supplemental power, back-up power, maintenance power, and interruptible power.

2. Definitions: Terms as defined in Order No. 69 (18 CFR Part 292) shall have the same meaning for these rules unless further defined.

2.1 Accredited Capacity: The electrical rating given to generating equipment that meets the Utility's criteria for uniform rating of generating equipment. This criteria includes but is not limited to reliability, availability, type of equipment, and the degree of coordination between the qualifying facility and the Utility.

2.2 Capacity Costs: The costs associated with providing the capability to deliver energy. They consist of the capital costs of facilities used to generate and transmit electricity or the cost to purchase such capacity from other utilities.

2.3 Demand: The average rate in kilowatts at which electric capacity is made available as

determined at the point of measurement during any 30 minute period or any other period to be determined by the Utility.

2.4 Energy: Electric energy as measured in kilowatt hours at the point of measurement.

2.5 Energy Costs: The variable costs associated with the production of electric energy. They represent energy related cost only, or the average cost of purchased energy. Identifiable capacity charges included in purchased power agreements shall not be included in the calculation of the cost of purchased energy.

2.6 Point of Measurement: The point or points where energy and/or demand are metered.

2.7 Point of Interconnection: The point or points at which the qualifying facility is to receive and/or deliver energy or capacity and energy under normal operating conditions.

2.8 Prudent Utility Practice: Any of the practices, methods, and acts engaged in or approved by a significant portion of the electrical utility industry consistent with reliability, safety, and expedition.

3. Conditions of Service: The conditions listed in this paragraph shall apply to all qualifying facilities served under these rules.

3.1 The Utility shall purchase energy or capacity and energy from any qualifying facility who offers to sell energy or capacity and energy.

3.2 The Member interconnected with the qualifying facility shall sell any capacity and energy that is required by the qualifying facility to the qualifying facility. The qualifying facility shall be billed under the applicable residential, general, industrial, or contractual service schedule.

3.3 The Member shall offer to provide maintenance, interruptible, supplementary, and back-up power to qualifying facility if requested by the qualifying facility.

3.4 The qualifying facility shall execute written agreements with the Utility and the Member to be interconnected. The Utility reserves the right to waive this requirement. The waiving of this requirement by the Utility does not relinquish the Utility's right to require the execution of a written agreement in the future.

3.5 The qualifying facility shall comply with all requirements of the National Electrical Safety Code, American National Standards Institute, Institute of Electrical and Electronic Engineers, American Society of Mechanical Engineers, and any other applicable local, state, or national code and operate its equipment according to prudent utility practice. In case of any conflict in the foregoing codes or standards, the Utility shall decide which shall govern.

3.6 The Member shall interconnect in parallel with the qualifying facility. The qualifying facility shall, to the point of interconnection; furnish, install, operate, and maintain in good order and repair and without cost to the Utility or the Member such relays, locks

and seals, breakers, automatic synchronizers, and other control and protective equipment as shall be designated by the Member as being required as suitable for the operation of the qualifying facility in parallel with the Member's system. The qualifying facility shall take appropriate steps to insure that operating in parallel will not degrade in any fashion the quality of service that is normally maintained on the Utility's or Member's systems.

3.7 Switching equipment capable of isolating the qualifying facility from the Member's system shall be accessible to the Member or its agent at all times.

3.8 At its option, the Member may choose to operate, without notice or liability, the switching equipment described in 3.6 and 3.7 above if, in the opinion of the Member or its agent, continued operation of the qualifying facility in connection with the Member's system may create or contribute to a system emergency or safety hazard. The Utility's obligation to purchase from the qualifying facility ceases when the Member or its agent operates the switching equipment described in 3.6 and 3.7 above. The Utility and the Member shall endeavor to minimize any adverse effects of such operation on the qualifying facility.

3.9 The qualifying facility shall indemnify and hold harmless the Member and the Utility from any and all liability arising from the operation and interconnection of the customer's facilities. The qualifying facility shall bear full responsibility for the installation and safe operation of the equipment required to generate and deliver energy or capacity and energy to the point of interconnection.

3.10 The Utility shall provide upon request sufficient data to allow the customer to determine the cost effectiveness of the qualifying facility if it goes into operation pursuant to these rules. The data given will conform to the outline given in § 292.303 (Order no. 69 - 45 FR Part 292).

3.11 Any costs of interconnection incurred by the Utility or the Member due to the interconnection of the qualifying facility, which are over and above the interconnection costs that would be incurred due to the connection of a comparable non-generating customer, shall be the responsibility of the qualifying facility. Interconnection cost may be amortized over a period of time not greater than the length of the contract between the Utility and the qualifying facility.

3.12 The Utility may discontinue purchase from the qualifying facility if the Utility determines that purchase from the qualifying facility would result in cost greater than those which the Utility would incur if it did not make such purchases.

3.13 The Utility will give sufficient notice to the qualifying facility when it intends to invoke paragraph 3.12.

3.14 The Member may discontinue sales to the qualifying facility during a system emergency, providing that such discontinuance is on a nondiscriminatory basis.

3.15 By mutual agreement between the Utility and the qualifying facility, the Utility will transmit or arrange for the transmission of energy or capacity and energy to another

utility for purchase by that utility. The Utility shall be fairly compensated for such transmission.

3.16 The qualifying facility shall provide an advance payment to the Utility if in the opinion of the Utility or the Member, as appropriate the costs of interconnection will be excessive and/or the amount of work that must be done by the Member to provide the interconnection facilities will be excessive.

3.17 The Utility and the Member reserve the right to approve, inspect and test the qualifying facility's generating equipment and all associated equipment.

4. Rates for Sales

4.1 The Utility shall purchase the surplus energy or surplus capacity and energy from qualifying facilities in which construction was commenced on or before November 8, 1978. The rate paid by the Utility to the qualifying facility for such surplus energy or surplus capacity and energy shall be a negotiated rate.

4.2 Qualifying facilities of 100 kW or less shall be paid a standard rate, except as otherwise stated in 4.1, based on avoided cost as outlines in 4.4 and 4.5. The installation of metering equipment shall be according to Utility policy.

4.3 For qualifying facilities of 100 kW or more the qualifying facility may negotiate a contract with the Utility. For qualifying facilities who choose not to negotiate, or in the event of an impasse in negotiations between the Utility and the qualifying facility, avoided costs will be paid. Such avoided costs shall be determined as outlined in 4.4 and 4.5 except as otherwise stated in 4.1.

4.4 Avoided energy costs shall be the estimated or actual energy costs adjusted for the following items:

A. The costs or savings to the Utility resulting from variations in line losses from those that would have existed in the absence of purchase from the qualifying facility, if the Utility generated or purchased an equivalent amount of energy.

B. Sanctions imposed for noncompliance with these rules and any contract between the Utility and the qualifying facility.

4.5 Capacity payments shall be made only in those periods of time in which the Utility is able to avoid capacity purchases and the qualifying facility enters into a legally enforceable contract to provide accredited capacity. The payment for the capacity purchase from the qualifying facility shall reflect the cost of the Utility's alternate source of capacity of similar capability. The capacity payments shall take into account the following items of information.

A. Length of the contract term.

B. Reasonable scheduling of maintenance.

C. Willingness and ability of the customer to allow the Utility to dispatch the customer's generation.

D. The Utility's ability to defer a purchase from another source or to defer construction of a facility or a portion of a facility.

E. Sanctions imposed for noncompliance with these rules and any contract between the Utility and qualifying facility.

F. Availability and reliability of the qualifying facility.

4.6 In the event of the imposition of any tax or payment in lieu thereof on the Utility, by any lawful authority on the production, transmission, sale, or purchase of energy or capacity and energy that would not occur due to a comparable non-generating customer, shall be the responsibility of the qualifying facility.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of Missouri Basin Municipal Power Agency	FERC Docket No. IR-_____

NOTICE OF MOTION FOR WAIVER OF CERTAIN OF THE COMMISSION'S REGULATIONS IMPLEMENTING SECTION 210 OF PURPA

(September , 1994)

Take notice that Missouri Basin Municipal Power Agency ("MBMPA"), a municipal joint action agency, on behalf of itself and 52 of its municipal utility members ("Members"), on September 19, 1994, filed a motion for waiver of certain of the Commission's regulations under 18 C.F.R. Part 292 implementing Section 210 of the Public Utilities Regulatory Policies Act of 1978 ("PURPA"), 16 U.S.C. §824a-3.

MBMPA is a municipal joint action agency formed under Chapter 28E of the Iowa Code and existing under the joint action laws of the States of Minnesota, North Dakota and South Dakota. It is filing this motion on behalf of itself and the 52 Members which purchase their full supplemental electric power requirements from MBMPA under long term power sales agreements. Those 52 Members are the Iowa municipalities of Alton, Denison, Hartley, Havarden, Kimballton, Lake Park, Manilla, Orange City, Paullina, Primghar, Remsen, Rock Rapids, Sanborn, Shelby, Sioux Center and Woodbine; the Minnesota municipalities of Adrian, Alexandria, Barnesville, Benson, Detroit Lakes, Elbow Lake, Henning, Jackson, Lakefield, Lake Park, Luverne, Madison, Moorhead, Ortonville, St. James, Sauk Centre, Staples, Wadena, Westbrook and Worthington; the South Dakota municipalities of Beresford, Big Stone City, Brookings, Burke, Faith, Flandreau, Fort Pierre, Pierre, Vermillion, Watertown and Winner; and the North Dakota municipalities of Cavalier, Hillsboro, Lakota, Northwood and Valley City.

MBMPA and its Members request that the Commission grant this Motion for Waiver of MBMPA's Members' obligation under 18 C.F.R. § 292.303(a) of the Commission's Regulations to purchase power directly from Qualifying Facilities and MBMPA's obligation under 18 C.F.R. § 292.303(b) to sell power directly to QFs. MBMPA is a wholesale supplier of electric power and energy and its members by contract are not permitted to

purchase wholesale power supply from other sources. The requested waiver will better enable MEMPA to conform to the requirements of Section 210 of PURPA. A copy of the revised policy required under FERC's Order No. 69 and Part 292 of the Commission's Regulations are attached to the motion.

Any person desiring to be heard or objecting to the granting of the motion should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such motions or protests must be filed _____ and must be served on the MEMPA. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell
Secretary

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 16th day of September, 1994.

David P. Yaffe, Esq.
Duncan & Allen
1575 Eye Street, N.W.
Washington, D.C. 20005
(202) 289-8400

ATTACHMENT 4

Rules for Compliance with Federal Energy Regulatory Commission Order No. 69
Cogeneration and Small Power Production

RULES FOR COMPLIANCE
WITH
FEDERAL ENERGY REGULATORY COMMISSION ORDER NO. 69
COGENERATION AND SMALL POWER PRODUCTION

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1. Introduction

1.1 The Public Utility Regulatory Policies Act of 1978 (PURPA), under Section 210, requires the Federal Energy Regulatory Commission (FERC) to develop rules which encourage Cogeneration and Small Power Production. Pursuant to Section 210, regulations have been prepared by FERC and published in the Federal Register (45 FR 12214, February 25, 1980). Missouri Basin Municipal Power Agency, d.b.a. Missouri River Energy Services ("Utility") and its member municipal utilities ("Member"), which are nonregulated electric utilities, will implement, to the extent possible, the procedures and requirements of FERC Order no. 69, pursuant to these rules.

1.2 These rules apply to all entities willing and able to enter into an agreement with the Utility and its Members. Provisions of these rules shall not supersede existing contracts. Entities who have the status of "qualifying small power production facility" and/or "qualifying cogeneration facility" hereinafter referred to collectively as qualifying facility, pursuant to FERC Order No. 70 (45 FR 17959, March 20, 1980) are eligible to apply for service under these rules.

1.3 These rules represent general guidelines since the nature, size, and character of qualifying facilities can vary widely. The Utility reserves the right to evaluate qualifying facilities on a case by case basis.

1.4 The Utility is a wholesale supplier of power and energy to municipal Utilities; and as such, has no sales other than sales for resale. Qualifying facilities which seek to do business with the Utility shall interconnect with the Members, since the Utility has no sales for retail supplemental power, back-up power, maintenance power, and interruptible power.

2. Definitions: Terms as defined in Order No. 69 (18 CFR Part 292) shall have the same meaning for these rules unless further defined.

2.1 Accredited Capacity: The electrical rating given to generating equipment that meets the Utility's criteria for uniform rating of generating equipment. This criteria includes, but is not limited to, reliability, availability, type of equipment, and the degree of coordination between the qualifying facility and the Utility.

2.2 Capacity Costs: The costs associated with providing the capability to deliver energy. They consist of the capital costs of facilities used to generate and transmit

electricity or the cost to purchase such capacity from other utilities.

2.3 Demand: The average rate in kilowatts at which electric capacity is made available as determined at the point of measurement during any 30 minute period or any other period to be determined by the Utility.

2.4 Energy: Electric energy as measured in kilowatt hours at the point of measurement.

2.5 Energy Costs: The variable costs associated with the production of electric energy. They represent energy related cost only, or the average cost of purchased energy. Identifiable capacity charges included in purchased power agreements shall not be included in the calculation of the cost of purchased energy.

2.6 Point of Measurement: The point or points where energy and/or demand are metered.

2.7 Point of Interconnection: The point or points at which the qualifying facility is to receive and/or deliver energy or capacity and energy under normal operating conditions.

2.8 Prudent Utility Practice: Any of the practices, methods, and acts engaged in, or approved by, a significant portion of the electrical utility industry consistent with reliability, safety, and expedition.

3. Conditions of Service: The conditions listed in this paragraph shall apply to all qualifying facilities served under these rules.

3.1 The Utility shall purchase energy or capacity and energy from any qualifying facility who offers to sell energy or capacity and energy.

3.2 The Member interconnected with the qualifying facility shall sell any capacity and energy that is required by the qualifying facility to the qualifying facility. The qualifying facility shall be billed under the applicable residential, general, industrial, or contractual service schedule.

3.3 The Member shall offer to provide maintenance, interruptible, supplementary, and back-up power to qualifying facility if requested by the qualifying facility.

3.4 The qualifying facility shall execute written agreements with the Utility and the Member to be interconnected. The Utility reserves the right to waive this requirement. The waiving of this requirement by the Utility does not relinquish the Utility's right to require the execution of a written agreement in the future.

3.5 The qualifying facility shall comply with all requirements of the National Electrical Safety Code, American National Standards Institute, Institute of

Electrical and Electronic Engineers, American Society of Mechanical Engineers, and any other applicable local, state, or national code and operate its equipment according to prudent utility practice. In case of any conflict in the foregoing codes or standards, the Utility shall decide which shall govern.

3.6 The Member shall interconnect in parallel with the qualifying facility. The qualifying facility shall, to the point of interconnection, furnish, install, operate, and maintain in good order and repair and without cost to the Utility or the Member such relays, locks and seals, breakers, automatic synchronizers, and other control and protective equipment as shall be designated by the Member as being required as suitable for the operation of the qualifying facility in parallel with the Member's system. The qualifying facility shall take appropriate steps to insure that operating in parallel will not degrade in any fashion the quality of service that is normally maintained on the Utility's or Member's systems.

3.7 Switching equipment capable of isolating the qualifying facility from the Member's system shall be assessable to the Member or its agent at all times.

3.8 At its option, the Member may choose to operate, without notice or liability, the switching equipment described in 3.6 and 3.7 above if, in the opinion of the Member or its agent, continued operation of the qualifying facility in connection with the Member's system may create or contribute to a system emergency or safety hazard. The Utility's obligation to purchase from the qualifying facility ceases when the Member or its agent operates the switching equipment described in 3.6 and 3.7 above. The Utility and the Member shall endeavor to minimize any adverse effects of such operation on the qualifying facility.

3.9 The qualifying facility shall indemnify and hold harmless the Member and the Utility from any and all liability arising from the operation and interconnection of the customer's facilities. The qualifying facility shall bear full responsibility for the installation and safe operation of the equipment required to generate and deliver energy or capacity and energy to the point of interconnection.

3.10 The Utility shall provide, upon request, sufficient data to allow the customer to determine the cost effectiveness of the qualifying facility if it goes into operation pursuant to these rules. The data given will conform to the outline given in § 292.302 (Order no. 69 - 45 FR Part 292).

3.11 Any costs of interconnection incurred by the Utility or the Member due to the interconnection of the qualifying facility, which are over and above the interconnection costs that would be incurred due to the connection of a comparable non-generating customer, shall be the responsibility of the qualifying facility. Interconnection cost may be amortized over a period of time not greater than the length of the contract between the Utility and the qualifying facility.

3.12 The Utility may discontinue purchase from the qualifying facility if the Utility

determines that purchase from the qualifying facility would result in cost greater than those which the Utility would incur if it did not make such purchases.

3.13 The Utility will give sufficient notice to the qualifying facility when it intends to invoke paragraph 3.12.

3.14 The Member may discontinue sales to the qualifying facility during a system emergency, providing that such discontinuance is on a nondiscriminatory basis.

3.15 By mutual agreement between the Utility and the qualifying facility, the Utility will transmit or arrange for the transmission of energy or capacity and energy to another utility for purchase by that utility. The Utility shall be fairly compensated for such transmission.

3.16 The qualifying facility shall provide an advance payment to the Utility if in the opinion of the Utility or the Member, as appropriate, the costs of interconnection will be excessive and/or the amount of work that must be done by the Member to provide the interconnection facilities will be excessive.

3.17 The Utility and the Member reserve the right to approve, inspect, and test the qualifying facility's generating equipment and all associated equipment.

4. Rates for Sales

4.1 The Utility shall purchase the surplus energy or surplus capacity and energy from qualifying facilities in which construction was commenced on or before November 8, 1978. The rate paid by the Utility to the qualifying facility for such surplus energy or surplus capacity and energy shall be a negotiated rate.

4.2 Qualifying facilities of 100 kW or less shall be paid a standard rate, except as otherwise stated in 4.1, based on avoided cost as outlined in 4.4 and 4.5. The installation of metering equipment shall be according to Utility policy.

4.3 For qualifying facilities of 100 kW or more, the qualifying facility may negotiate a contract with the Utility. For qualifying facilities who choose not to negotiate, or in the event of an impasse in negotiations between the Utility and the qualifying facility, avoided costs will be paid. Such avoided costs shall be determined as outlined in 4.4 and 4.5, except as otherwise stated in 4.1.

4.4 Avoided energy costs shall be the estimated or actual energy costs adjusted for the following items:

A. The costs or savings to the Utility resulting from variations in line losses from those that would have existed in the absence of purchase from the qualifying facility, if the Utility generated or purchased an equivalent amount of energy.

B. Sanctions imposed for noncompliance with these rules and any contract between the Utility and the qualifying facility.

4.5 Capacity payments shall be made only in those periods of time in which the Utility is able to avoid capacity purchases and the qualifying facility enters into a legally enforceable contract to provide accredited capacity. The payment for the capacity purchase from the qualifying facility shall reflect the cost of the Utility's alternate source of capacity of similar capability. The capacity payments shall take into account the following items of information.

A. Length of the contract term.

B. Reasonable scheduling of maintenance.

C. Willingness and ability of the customer to allow the Utility to dispatch the customer's generation.

D. The Utility's ability to defer a purchase from another source or to defer construction of a facility or a portion of a facility.

E. Sanctions imposed for noncompliance with these rules and any contract between the Utility and qualifying facility.

F. Availability and reliability of the qualifying facility.

4.6 In the event of the imposition of any tax or payment in lieu thereof on the Utility by any lawful authority on the production, transmission, sale, or purchase of energy or capacity and energy that would not occur due to a comparable non-generating customer, such tax or payment shall be the responsibility of the qualifying facility.

Document Content(s)

SECTION 3

GUIDELINES FOR IMPLEMENTING THE RULES FOR COMPLIANCE AND SECTION 210 OF PURPA

Background

The following are guidelines for the MEMBER and MRES to implement Rules for Compliance and also Subpart C (Arrangements between Electric Utilities and Qualifying Co-generation and Small Power Production Facilities) under Section 210 of PURPA.

In creating these guidelines, many general assumptions have been made about what type or size of generation may be interconnected. The intent of the guidelines is to provide a customer who owns a QF (Customer) with further clarity on the implementation of the Rules for Compliance. The nature, size, and character of a QF can vary widely. The procedures, requirements, and agreements will differ depending on: (1) voltage of interconnect, (2) if the generation facility qualifies as a QF, (3) the size of the generating facility, and (4) the character of services provided and/or needed by the Customer (See Exhibit A: Distributed Generation Screening located in Section 6). The specific procedures and requirements that will be followed will be determined once an application for interconnection has been filed and reviewed by the MEMBER.

As stipulated by the Rules for Compliance, the MEMBER and MRES reserve the right to evaluate QFs on a case by case basis.

All Customers who desire to interconnect their QFs, and operate in parallel with a MEMBER electrical system, will be required to execute certain contractual agreements with MEMBER and/or MRES. These agreements may include, among others, an interconnection agreement, power purchase agreement (or a combined interconnection and power purchase agreement), operating agreement, and/or maintenance agreement.

Generally, the following basic terms and guidelines will be included in an interconnection agreement and power purchase agreement. The specific terms of the agreement will vary depending on the QF and the character of services provided by the MEMBER and/or needed by the Customer. The following information is provided as a general indication of the terms of such agreements; the terms of the actual agreement(s) signed by the parties will govern.

A. QF's Status

1. Criteria for qualifying status for small power production facilities and cogeneration facilities are the same as set forth in FERC's regulation and rules (18 C.F.R. Part 292 Subpart B as amended).

2. Procedures for self certification or application for FERC certification as a QF are the same as set forth in FERC's regulation and rules (18 C.F.R. Part 292.207, Subpart B as amended).

3. A Customer who wishes to pursue installation and interconnection of a QF will submit an "Application for Interconnection" as provided by the MEMBER.

B. MEMBER and MRES Obligations Under PURPA

1. The MEMBER is generally obligated to:

   a. Sell to QFs
   b. Interconnect with QFs
   c. Operate in parallel with QFs

2. MRES is generally obligated to:

   a. Purchase from QFs, directly or indirectly.

3. By mutual agreement between MRES and the Customer, MRES will transmit or arrange for the transmission of energy or capacity and energy to another utility for purchase. MRES shall be fairly compensated for such transmission. MEMBER will transmit the QF-generated power and/or energy to another electric utility. The Customer shall be assessed a wheeling charge and the delivery shall be adjusted for losses.

4. The terms and conditions of these obligations will be specified in such agreements to include interconnection agreements, power purchase agreements, and/or others as deemed necessary by the MEMBER and MRES.

C. Purchase of Output from QFs

1. Owners of QFs will be allowed the option to either: (1) sell the entire electrical output of their QF to MRES or (2) use the electrical output of their QF to instantaneously supply all or a portion of their own load and sell the instantaneous surplus, if any, to MRES.

   Under (2), depending on the nature and characteristics of the type of QF, the MEMBER may be required to reserve or dedicate capacity in its system to serve such loads when the QF's output is intermittently reduced partially or completely. MEMBER rates are designed to recover the cost of supplying customers that do not have generation. In the case of customers that generate, the customers' load characteristics may be such that MEMBER rates do not fully recover the costs of standby and backup service provided by the MEMBER. The Customer's right to sell power to MRES may be subject to temporary curtailments by MEMBER when, as a result of operational circumstances, the delivery of such power would interfere with the safe and efficient operation of the MEMBER's electrical system.

   The metering arrangements are discussed in Exhibit A of this section.

2. As provided under PURPA, MRES may discontinue purchase from the QF upon reasonable notice if MRES determines that purchase from the QF would result in greater costs.

D. Avoided Costs and Purchase Rates for Power from QFs

1. Capacity costs are the costs associated with providing the capability to deliver energy. They consist of the capital costs of facilities used to generate and transmit electricity or the cost to purchase such capacity from other utilities.

2. Energy costs are the variable costs associated with the production of electric energy. They represent energy related cost only, or the average cost of purchased energy. Identifiable capacity charges included in purchased power agreements are not included in the calculation of the cost of purchased energy.

3. MRES will purchase the surplus energy or surplus capacity and energy from QFs in which construction was commenced on or before November 8, 1978. The purchase rate paid by the MRES to the QF for such surplus energy or surplus capacity and energy shall be a negotiated rate(s).

4. A standard purchase rate for QFs of 100 kW and less has been developed and is located in Section 5 of this document. Such purchase rate shall be reviewed on a periodic basis and subject to change. Such purchase rate will be based upon the avoided costs of MRES as adjusted for the factors indicated in the FERC regulations regarding affecting rates for purchase.

5. For QFs of 100 kW or more, the Customer may negotiate a contract with MRES. For Customers which choose not to negotiate, or in the event of an impasse in negotiations between MRES and the Customer, avoided costs will be paid. Avoided costs shall be determined as outlined in D.6 and D.7.

6. Avoided costs shall be the estimated or actual energy costs adjusted for the following items:

   a. The costs or savings to MRES resulting from variations in line losses from those that would have existed in the absence of purchase from the QF, if the MRES generated or purchased an equivalent amount of energy.

   b. Sanctions imposed for noncompliance with these rules and any contract between MRES and the Customer.

7. Capacity payments shall be made only in those periods of time in which MRES is able to avoid capacity purchases and the Customer enters into a legally enforceable contract to provide accredited capacity. The payment for the capacity purchase from the QF shall reflect the cost of MRES alternate source of capacity of similar

capability. The capacity payments shall take into account the following items of information.

a. Length of the contract term.

b. Reasonable scheduling of maintenance.

c. Willingness and ability of the Customer to allow MRES to dispatch the QF.

d. The ability of MRES to defer a purchase from another source or to defer construction of a facility or a portion of a facility.

e. Sanctions imposed for noncompliance with these rules and any contract between MRES and the Customer.

f. Availability and reliability of the QF.

8. In the event of the imposition of any tax or payment, in lieu thereof, on MRES by any lawful authority on the production, transmission, sale, or purchase of energy, or capacity and energy, that would not occur due to a comparable non-generating customer, the tax or payment is the responsibility of the Customer.

9. The purchase rate from the QF will be developed in a manner to ensure that other MEMBER or MRES customers are not adversely affected by the requirement for MRES to purchase power and/or energy from the QF.

10. Interconnected Customers that elect to sell their QF-generated electrical output to a utility other than to MRES through the MEMBER will be subject to adjustments for line losses and wheeling charges based upon the MEMBER system.

11. The purchase rate from production facilities, other than "new capacity" as defined by the FERC regulations, will be considered on a case by case basis.

E. Rates for Sales of Power to Customers

1. Upon request by a Customer, MEMBER will provide either appropriate existing rates or, if feasible and practical, develop and offer rates for:

a. Supplemental power, defined as electric energy or capacity supplied by MEMBER, regularly used by the Customer in addition to that which the QF generates;

b. Back-up or emergency power, defined as electric energy or capacity supplied by MEMBER to replace energy normally generated by a Customer's own generation equipment during an unscheduled outage of the QF;

c. Maintenance power, defined as electric energy or capacity supplied by MEMBER during scheduled outages of the QF; and

d. Interruptible power, defined as electric energy or capacity supplied by MEMBER subject to interruption by MEMBER under specified conditions.

2. The rates for sale shall meet the general rules and criteria as set forth in FERC regulations.

3. When the purchase of supplemental, back-up, maintenance, or interruptible power requires MEMBER to provide additional interconnection or metering facilities, the Customer will pay for the additional costs of such facilities.

4. Customers which elect to purchase supplemental, backup, maintenance, or interruptible power from MEMBER will do so under contract or addenda to existing contractual agreements.

5. MEMBER will not contract or otherwise become obligated to sell power and/or energy to any QF that is not located within the MEMBER service area.

F. Responsibility for Construction and Interconnection

1. The Customer and MEMBER will cause their facilities or systems to be constructed in accordance with the laws of the state and to meet or exceed applicable codes and standards provided by the NESC (National Electrical Safety Code), ANSI (American National Standards Institute), IEEE (Institute of Electrical and Electronic Engineers), NEC (National Electrical Code), UL (Underwriter's Laboratory), technical requirements and local building codes, and other applicable ordinances in effect at the time of the installation of the QF.

2. Unless otherwise specified, the Customer is responsible for the actual costs to interconnect the QF with the MEMBER, including, but not limited to, any equipment installed due to the interconnection of the QF, MEMBER labor for installation coordination, installation testing, engineering review of the QF, and interconnection design. All costs for which the Customer is responsible must be reasonable under the circumstances of the design and construction.

3. The Customer may be required to provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under the MEMBER credit policy and procedures.

4. The Customer may be required to provide an advance payment to the MEMBER or MRES if, in the opinion of MRES or the MEMBER, as appropriate, the costs of interconnection will be excessive and/or the amount of work that must be done by the MEMBER to provide the interconnection facilities will be excessive.

G. Compliance with MEMBER Safety, Protection, and Operating Guidelines

1. Technical Standards: The QF shall be installed and operated by the Customer in accordance with the laws of the applicable state; the technical requirements of the MEMBER; the applicable requirements located in the NEC; the applicable standards published by ANSI and IEEE; and local building and other applicable ordinances in effect at the time of the installation of the QF.

2. Power Quality: The installation shall be constructed and operated to insure that the MEMBER system is not adversely affected by power quality issues which may be caused by the QF, including voltage flicker. The QF shall be equipped with devices which serve to minimize power quality disturbances, including soft starting controls to minimize inrush currents and control devices to prevent multiple units from starting simultaneously.

3. Right of Access: At all times, MEMBER personnel or its agents shall have access to the disconnect switch of the QF for any reasonable purpose in connection with the MEMBER's obligation to operate safely and to provide service to its customers.

4. Electric Service Supplied: The MEMBER will supply the electrical requirements, as referenced in E.1., of the Customer that are not supplied by the QF. Such electric service shall be supplied to the Customer under the rate schedules applicable to the Customer's class of service as revised from time to time by the MEMBER.

5. Maintenance and Operations: Customers will be responsible for providing, operating, and maintaining all equipment they deem necessary for the protection of their own property and operations.

6. Cooperation and Coordination: Both the MEMBER and the Customer shall communicate and coordinate their operations so that the normal operation of the MEMBER does not unduly affect or interfere with the normal operation of the QF and the QF does not unduly effect or interfere with the normal operation of the MEMBER system. Under abnormal operations of either the QF or the MEMBER system, the responsible party shall provide reasonably prompt communication to the other party to allow mitigation of any potentially negative effects.

7. Metering: The point of common coupling between the MEMBER system and the QF will be the metering point unless otherwise specified. The MEMBER will specify the metering equipment and metering/billing arrangements depending on the level of service needed. The MEMBER will own the meter(s) utilized for billing, unless otherwise agreed in writing by the MEMBER and the Customer. The Customer will provide disconnect and protective devices on the QF/Customer side of the meter. See Exhibit A at the end of this section for metering arrangement guidelines.

8. Disconnection of Unit: The MEMBER may disconnect the QF as reasonably necessary, including for non-compliance to an agreement; system emergency,

imminent danger to the public or MEMBER personnel; and routine maintenance, repairs, and modifications to the MEMBER system. Neither MEMBER nor MRES shall have any liability for any loss of sales or other damages, including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable. The MEMBER will expend reasonable effort to reconnect the QF in a timely manner and to work toward mitigating damages and losses to the QF where reasonably possible.

9. Modifications to the Generation System: When reasonably possible, the Customer must notify the MEMBER, in writing, of plans for any modifications to the QF interconnection equipment

10. Permits and Approvals: The Customer will obtain all environmental and other permits required by governing authorities prior to the construction of the QF. The Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

H. Insurance

1. The Customer must maintain certain minimum levels of general liability insurance with respect to the interconnection and operation of the QF. The amount of insurance will be determined by the MEMBER, based on, among other things, the nameplate capacity of the QF.

2. The Customer shall furnish all required insurance certificates and endorsements to the MEMBER, upon request, prior to the initial operation of the QF. Thereafter, the MEMBER shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance.

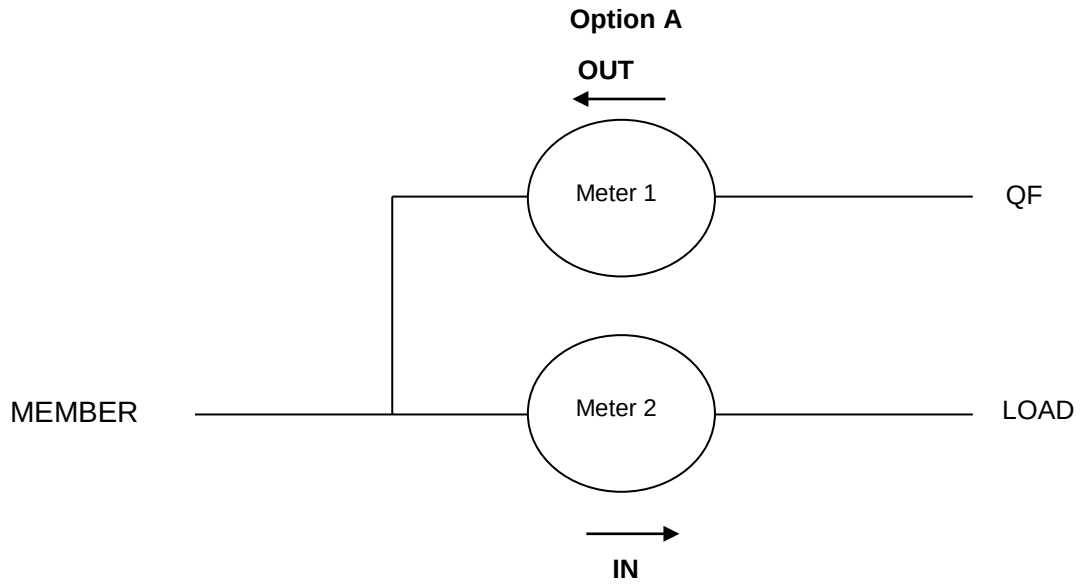
In some instances, an operating agreement and/or maintenance agreement may also be required to help preserve the integrity of the MEMBER system:

A. Operating Agreement: Each QF interconnection will be unique. Some may require an Operating Agreement. It is envisioned that this Operating Agreement will be tailored by the MEMBER for each QF. It is also intended that this Operating Agreement will be reviewed and updated periodically, to allow the operation of the QF to be modified to meet the needs of both the MEMBER and the Customer. There may also be operating changes required by outside issues, such as changes in FERC and the transmission provider requirements and/or policies, which will require this Operating Agreement to be modified.

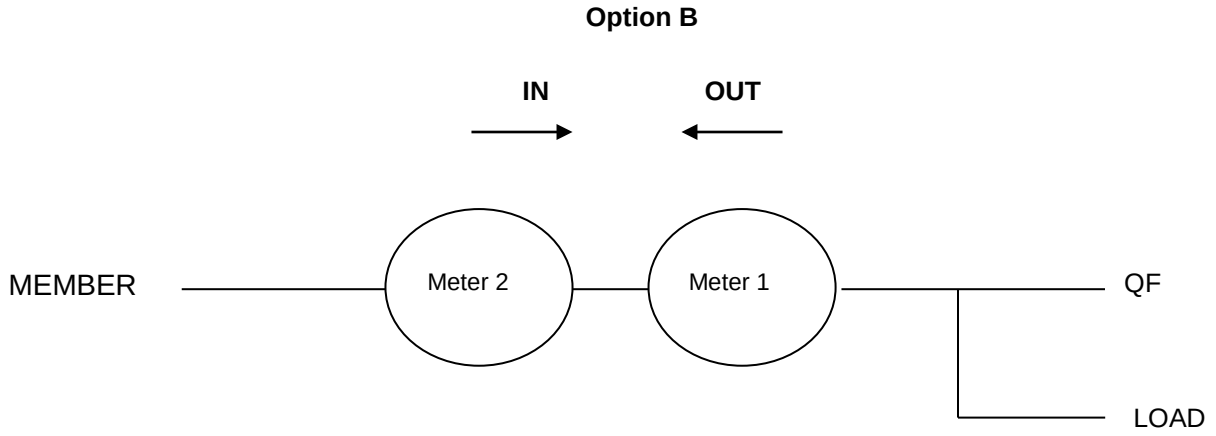
B. Maintenance Agreement: Due to the uniqueness of each QF interconnection, a Maintenance Agreement may also be required. FERC, NERC, transmission providers, etc. may require a Maintenance Agreement to maintain the reliability of the MEMBER electrical system and the electrical transmission system the MEMBER is interconnected with. It is intended that this Maintenance Agreement will be tailored by the MEMBER for each QF.

Exhibit A:

METERING ARRANGEMENTS



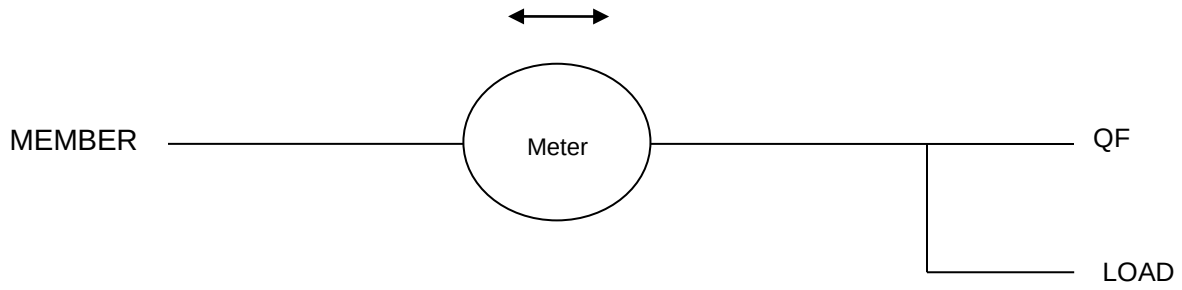
Assumes QF supplies entire output to MEMBER which is purchased by UTILITY as recorded on Meter 1. MEMBER supplies the entire load as recorded on Meter 2.



Assumes QF first supplies Customer's own load and supplies instantaneous excess or surplus to MEMBER which is purchased by UTILITY as recorded on Meter 1. MEMBER supplies the instantaneous load deficiency as recorded on Meter 2.

Option C: <40 kW Small Renewable

OUT and IN



QF supplies Customer's own load and supplies instantaneous excess or surplus back to the MEMBER, if applicable. MEMBER supplies instantaneous deficiency to load when QF cannot provide. If the result at the end of the billing cycle shows the meter measures IN flow to the QF/LOAD, MEMBER bills customer at applicable rate times the meter reading. If the meter measures OUT flow to the MEMBER, the Customer is reimbursed by the MEMBER the applicable avoided rate times the meter reading, and the MEMBER is correspondingly reimbursed by MRES. MEMBER has the right to invoke charges as discussed in E.1. in order to maintain adequate levels of service to the QF.

SECTION 4

RESOLUTION NO. 5676

RESOLUTION ADOPTING A SMALL POWER PRODUCTION AND CO-GENERATION POLICY THAT SETS RULES AND GUIDELINES TO FULFILL THE CITY'S OBLIGATION TO PURCHASE POWER FROM QUALIFYING FACILITIES UNDER THE PUBLIC POWER UTILITIES REGULATORY POLICY ACT OF 1978

WHEREAS, the City of Pella owns and operates an electric utility that provides electricity to residents of the City of Pella and also to residents outside the City limits but within the service area boundary established by the State of Iowa; and,

WHEREAS, the City Council has deemed it advisable and necessary to authorize and implement a Small Power Production and Co-Generation Policy; and,

WHEREAS, the Public Utilities Regulatory Policy Act of 1978 (PURPA), as amended, requires a utility to buy power and sell power to Qualifying Facilities; and,

WHEREAS, the City of Pella and MRES filed a Petition of Wavier, which specifies the obligations of the City of Pella and MRES to a QF with the Federal Energy Regulatory Commission (FERC) on Section 2010 of PURPA and have been granted such waiver by the FERC; and,

WHEREAS, the City of Pella and MRES agreed to comply with "Rules of Compliance" as part of the Waiver; and,

WHEREAS, the City of Pella has drafted guidelines and documents to implement the Rules of Compliance known as the "Distributed Generation Workbook" to accommodate QFs in interconnection and power purchase arrangements, which are subject to be updated periodically.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PELLA, IOWA:

That in recognition of the above statements, the City of Pella hereby adopts the Distributed Generation Workbook as the "Small Power Production and Co-Generation Policy."

PASSED and ADOPTED this 5th day of April, 2016.

James Mueller, Mayor

ATTEST:

Ronda Brown, City Clerk

SECTION 5

AVOIDED COSTS AND CAPACITY PLANS

MISSOURI RIVER ENERGY SERVICES
COMPLIANCE WITH FEDERAL ENERGY REGULATORY COMMISSION'S
REGULATIONS ORDER 69, 18 CFR PART 292.302

FERC has adopted certain rules and regulations which require MRES to prepare and maintain for public inspection electric utility system cost and rate data as defined in the regulations Section 292.302(b)(1) through (d).

The purpose of this submittal is to make available to potential cogenerators and small power producers present and anticipated future avoided cost data of electric energy and capacity for MRES. This data is intended to help potential owners of such QFs to evaluate the financial feasibility of a cogeneration or small power production project.

This data is not intended to represent a rate for purchases from QFs, but rather the first step towards rate determination.

Rates for QF

1. 100 kW or less: Any QF 100 kW or less shall be paid a standard rate as per PURPA or as otherwise required by law. MRES Board of Directors sets PURPA Standard Rate each year for the following calendar year.

2. Greater than 100 kW: Rates to QFs in this category are negotiated and will also take into consideration those factors enumerated in Section 292.304 of the regulations.

PURPA AVOIDED ENERGY COST
Section 292.302 (b) (1)
Date of last update: 10/2015

Avoided Energy Cost

Seasonal Avoided Energy Costs
(cents /kWh):

	2015*		2016		2017	
	Summer	Winter	Summer	Winter	Summer	Winter
On-Peak	3.357	3.162	3.748	3.531	4.154	3.913
Off-Peak	2.045	2.228	2.283	2.488	2.531	2.757

	2018		2019		2020**	
	Summer	Winter	Summer	Winter	Summer	Winter
On-Peak	4.766	4.489	5.235	4.932	7.852	7.397
Off-Peak	2.903	3.163	3.189	3.474	4.783	5.211

Annual Avoided Costs
(cents per kWh):

2015*	2016	2017	2018	2019	2020**
2.73	3.04	3.38	3.87	4.25	6.38

Rates

For QF facilities 100 kW or less, the PURPA Standard Rate is 3.04 cents per kWh for 2016 adopted in October 2015 by the MRES Board of Directors

Qualifying facilities greater than 100 kW will be treated on a case-by-case basis as allowed by federal regulations.

* Historic as of 9/15/15
** Assumes carbon cost of $21.50/ton

Electric Utility's Plan for Additions of Capacity
Per PURPA
292.302 (b) (2)

	Planned Capacity Additions			Planned	Planned
	Unit	Size		Capacity	Firm
Year	Name	(MW)	Unit Type	Retirements	Purchases
2018	Red Rock	55	Hydro	None	None
2020	Wind Gen	10	Wind	None	None
2021	Wind Gen	10	Wind	None	None
2025	Wind Gen	30	Wind	None	None
2028	Wind Gen	10	Wind	None	None

Estimated Capacity Costs
Per PURPA
292.302 (b) (3)

Planned Unit Addition or Firm Purchase	Planned Capacity Cost ($/kW)
Red Rock Hydro Project(2018)	$7,715
Wind Generation Project (2020)	n/a - leased
Wind Generation Project (2021)	n/a – leased
Wind Generation Project (2025)	n/a – leased
Wind Generation Project (2028)	n/a – leased

SECTION 6

INTRODUCTION TO
DISTRIBUTED GENERATION INTERCONNECTION PROCEDURE
FOR
COGENERATION AND SMALL PRODUCTION FACILITIES

General

Missouri River Energy Services (MRES) and local utility (MEMBER) support cost effective generation of electricity by customer owned facilities. Under the FERC regulations, the MEMBER is generally obligated to interconnect with, and operate in parallel with, a QF. The MEMBER is also required to sell electricity to generators who qualify under FERC's standard, while MRES is required to purchase electricity from generators who qualify under FERC's standards.

All generation and transmission interconnections shall comply with the requirements of NERC, MAPP, and/or other regional transmission and authorized providers.

Customer owned generation that does not satisfy FERC qualifying status requirements may be interconnected, but will not be allowed to operate in parallel with MEMBER electric system without approval by MEMBER and MRES.

Purpose

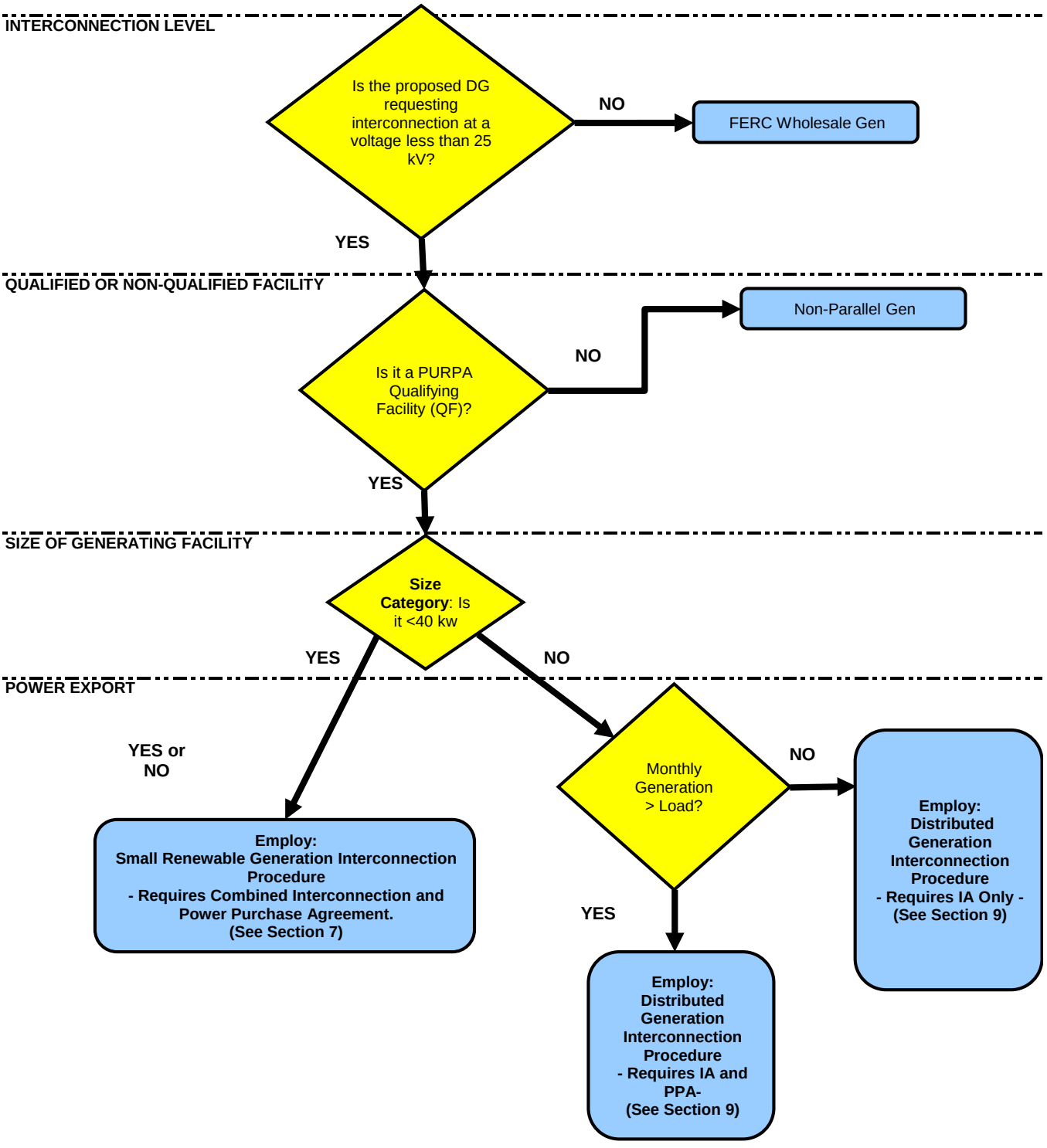
This procedure covers the process involved when a customer requests to interconnect a generation system. The process starts when the Customer first contacts the MEMBER for information about customer-owned generation facilities and discusses the nature of the customer owned generation and operational desires. The procedure then progresses to a discussion of such items as (1) Interconnection Level, (2) QF status, (3) Size of Generation Facility, and (4) Power Export characteristics. Answers to these questions determine such items as engineering review, technical requirements, agreements, rates, etc.

Starting the Process: Contacts and Initial Communications, Determination of Procedure

The process begins with the Customer contacting the MEMBER. Appropriate personnel from the MEMBER and MRES, if necessary, are appointed to the project and assigned specific tasks as outlined on the following page:

Responsibility	Step	Action
Customer	1	Contact MEMBER; acquire information about installing customer-owned generation.
MEMBER Employee (receiving call/letter)	2	Refer the phone call/letter to the MEMBER Coordinator.
MEMBER Coordinator	3	Contact Customer and inquire about: 1) Interconnection Level 2) QF Status 3) Size of Generation 4) Power Export -See Exhibit A – Distributed Generation Screening Supply Customer with: 1) Guidelines 2) Avoided Cost Information 3) Other service charges
MEMBER Coordinator	4	Contact MRES Marketing Department. Discuss Customer inquiry with MRES (UTIILITY) lead.
MRES Lead	5	Discuss with MRES supporting engineer.
MRES Contact and Supporting Engineer	6	Perform Initial Screening by examining the following four components to determine procedure to recommend to MEMBER Coordinator: 1) Interconnection Level 2) QF Status 3) Size of Generation 4) Power Export -See Exhibit A- **If the customer generation would qualify for QF Status AND the generation is < 40 kW, proceed to Small Renewable Generation Interconnection Procedure. If not, go to Distributed Generation Interconnection Procedure**
MRES Contact	7	Contact MEMBER Coordinator to review/discuss appropriate procedure as identified above and other data as needed. Supply customer with procedure & requirement documents along with contract(s).

Exhibit A: Distributed Generation Screening



SECTION 7

SMALL RENEWABLE GENERATION INTERCONNECTION PROCEDURE FOR INVERTER CONNECTED SYSTEMS RATED LESS THAN 40 KW

Introduction

To interconnect a Generation System with MEMBER, there are several steps that must be followed. This document outlines a streamlined version of those steps for inverter connected systems rated less than 40kW. At any point in the process, if there are questions, please consult the MEMBER Contact.

This streamlined version of the interconnection process has been prepared to explain the process to interconnect a specific type and size of Generation System: a PURPA qualified generation system utilizing a Grid Tie Inverter rated below 40kW. If your system does not meet these qualifications, then this procedure is not applicable for interconnecting your system. Please refer to the "Distributed Generation Interconnection Procedure" in Section 9.

This document does not discuss the associated interconnection Technical Requirements, which are covered in the "Small Renewable Generation Interconnection: Requirements for Inverter Connected System Rated less than 40kW" in Section 8. Please refer to that document for Technical Requirements and additional explanation of the terms utilized herein.

General Information

A. Definitions

1. Applicant: The person, customer, or entity which is requesting the interconnection of a Generation System with MEMBER and has overall responsibility for ensuring that the Generation System is designed, operated, and maintained in compliance with the Technical Requirements.

2. Area EPS: An electric power system (EPS) that serves Local EPS. Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc.

3. Distribution System: The MEMBER system which is not part of the Area EPS Transmission System or any Generation System.

4. Extended Parallel: The Generation System is designed to remain connected with MEMBER for an extended period of time.

5. Generation: Any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.

6. MEMBER Coordinator: The person or persons designated by MEMBER to provide a single point of coordination with the Applicant for the generation interconnection process.

7. Generation System: The interconnected generator(s), controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables up to the Point of Common Coupling.

8. Grid Tie Inverter: A device that converts DC electricity to AC electricity. While a Grid Tie Inverter usually has been specially designed and constructed to safely interconnect with an Area EPS, for the purposes of this interconnection proceducre, a Grid Tie Inverter must also have been designed and tested to meet the requirements of IEEE 1547 and ANSI 929 standards and has been certified with a UL 1741 label.

9. Interconnection Customer: The party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.

10. Local EPS: An EPS contained entirely within a single premise or group of premises.

11. Point of Common Coupling: The point where the Local EPS is connected to an Area EPS.

12. Technical Requirements: The complete set of requirements outlined in the "MEMBER Distributed Generation Interconnection Requirements." Also includes the more concise subset of the technical requirements provided for smaller inverter interconnected generation systems titled "MEMBER Small Renewable Generation Interconnection Requirements for Inverter Connected Systems Rated less than 40kW".

B. MEMBER Coordinator

For questions regarding this generation interconnection process or any other questions regarding generation installation in general, please contact the following:

Name:	Nate Spurgeon
Title:	Electric Distribution Superintendent
Company:	City of Pella
Address:	222 Truman Road
	Pella, IA 50219
Phone:	(641) 628-2581
E-mail:	nspurgeon@cityofpella.com

This MEMBER Coordinator may not be able to directly answer or resolve all of the issues involved in the review and implementation of the interconnection process and standards, but shall be available to provide coordination assistance with the Applicant.

C. Insurance

In connection with the Interconnection Customer's performance of his or her duties and obligations under the Small Renewable Generation Interconnection Procedure and subsequent agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit as determined by MEMBER based on the Generation System of the Interconnection Customer.

Procedure for Small Renewable Generation Interconnection

Step 1 Application (By Applicant)

Upon decision to interconnect a Small Renewable Generation System with MEMBER, Applicant shall supply MEMBER with the following information:

1. Completed Generation Interconnection Application (Appendix A) including:

    a. One-line diagram
    b. Site plan of the proposed installation
    c. Proposed schedule of the installation

2. Payment of the $250 application fee. This application fee is to contribute to MEMBER's labor costs for administration, review of the design concept, and engineering screening for the proposed Generation System interconnection.

Step 2 Review of Application (By MEMBER)

Within 30 business days of receipt of all the information listed in Step 1, the MEMBER Coordinator shall respond to the Applicant with the information listed below. If the information required in Step 1 is not complete, the Applicant will be notified within 10 business days of what is missing and no further review will be completed until the missing information is submitted. (The 30 day clock will restart with the new submittal.)

The proposed Generation System will be screened to determine if additional engineering studies are required. The base screening criteria is listed in the general information section of this document.

1. A single point of contact with MEMBER for this project. (MEMBER Coordinator)

2. Approval or rejection of the generation interconnection request.

    a. Rejection – MEMBER shall supply the technical reasons, with supporting information, for rejection of the Application.

    b. Approval – An approved Application is valid for 6 months from the date of the approval. The MEMBER Coordinator may extend this time upon request of the Applicant

MEMBER will conduct a high level review to confirm that, with the incremental addition of this QF into the MEMBER Distribution System, the sum of all generation does not exceed 50% of the minimum annual hourly load at the MEMBER high voltage substation. If it does exceed 50% of the minimum annual hourly load at the MEMBER substation, a more detailed analysis may be needed including discussions

with and evaluations by MRES to confirm there are no significant transmission impacts related to the addition of the interconnected generation.

3. Comments on the schedule provided.

4. Interconnection and Power Purchase Agreement.

5. Cost estimate and payment schedule for required MEMBER work, including, but not limited to:

    a. Labor costs related to the final design review
    b. Labor & expense costs for attending meetings
    c. Required equipment and other MEMBER modification(s)
    d. Final acceptance testing costs

Step 3 Final Go/No-Go Decision (Bv Applicant)

The Applicant shall have the opportunity to indicate whether they want to proceed with the proposed generation interconnection. If the decision is to NOT proceed, the Applicant will notify the MEMBER Coordinator, so that other generation interconnections in the queue are not adversely impacted.

Should the Applicant decide to proceed, the following information is to be supplied to the MEMBER Coordinator:

1. Applicable up-front payment required by MEMBER, per Payment Schedule, provided in Step 2. (if applicable)

2. Signed Interconnection and Power Purchase Agreement

3. Final proposed schedule, incorporating the MEMBER comments or requirements

4. Detailed information on the proposed equipment, if required by MEMBER in Step2, including wiring diagrams, models and types

Step 4 Order Equipment and Construction (Bv MEMBER /Applicant)

The following activities shall be completed:

By the Applicant's personnel:

1. Installing Generation System

2. Filing of required state electrical inspection forms

3. Inspecting and functional testing of Generation System components

By MEMBER personnel:

1. Installing and testing any MEMBER facilities or line extensions

2. Assisting Applicant's personnel with interconnection installation coordination issues

3. Providing review and input for testing process

Step 5 Final Tests (Bv MEMBER /Applicant)

(Due to equipment lead times and construction, a significant amount of time may pass between the execution of Step 4 and Step 5.)

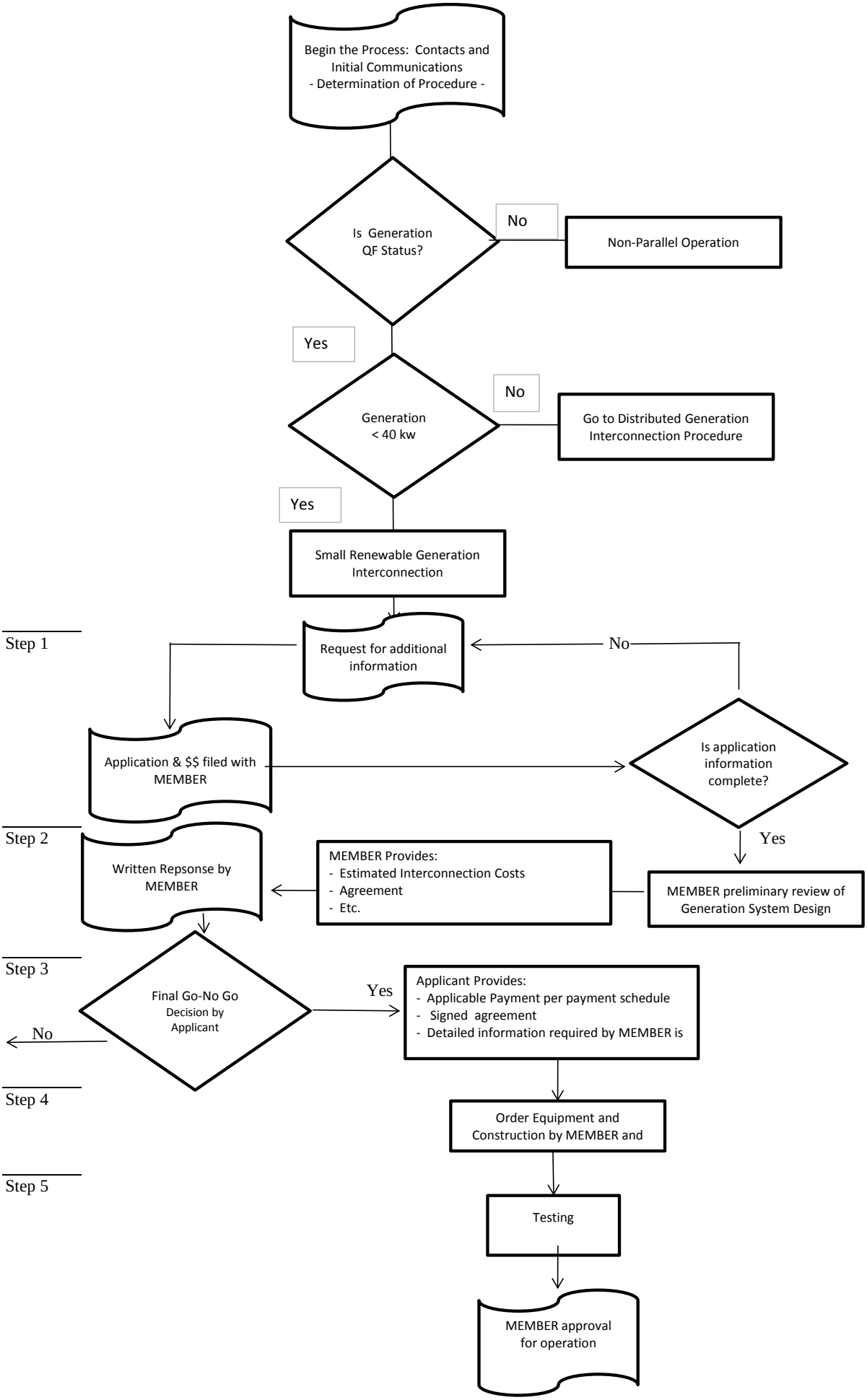
Final acceptance testing will commence when all equipment has been installed and all contractor preliminary testing has been accomplished. A week or two prior to the start of the final testing of the generation interconnection, the Applicant shall provide MEMBER with a report certifying:

1. The Generation System meets all interconnection requirements.

2. All contractor preliminary testing has been completed.

3. A proposed date that the Generation System will be ready to be energized and to be acceptance tested.

Appendix A: Small Renewable Generation Interconnection Procedure Flowchart



Appendix B
Small Renewable Generation Application (w/Inverter and < 40 kW)

WHO SHOULD FILE THIS APPLICATION: Customers interested in installing generation, rated less than 40 kw, which will interconnect to MEMBER distribution system using a Grid Tie Inverter. This application should be completed and returned to MEMBER Coordinator, in order to begin processing the request.

INFORMATION: Member will perform an interconnection review based on the information provided. The Applicant shall complete as much of the form as possible. The fields in BOLD are required to be completed to the best of the Applicant's ability. The Applicant will be contacted if additional information is required. The response may take up to 30 business days after receipt of all the required information.

APPLICATION FEE: $250 filing fee to cover the cost of processing and reviewing this application.

OWNER/APPLICANT		
Applicant:	**Phone Number:**	**FAX Number:**
Mailing Address:		
Email Address:		

PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION
Street Address, Legal Description, or GPS coordinates:

ELECTRICAL CONTRACTOR (if applicable)		
Company:		
Representative:	**Phone Number:**	**FAX Number:**
Mailing Address:		
Email Address:		

TYPE OF INTERCONNECTED OPERATION	
Type of Generation System Solar Wind(Circle one) or other Describe	
Proposed use of generation: (Check all that may apply) ❑ **Peak Reduction** ❑ **Standby** ❑ **Energy Sales** ❑ **Cover Load**	**Duration Parallel:** ❑ **None** ❑ **Limited** ❑ **Continuou**
Pre-Certified System: Yes / No / Don't know (Circle one)	**Exporting Energy Yes / No (Circle**

ESTIMATED START/COMPLETION DATES	
Order Equipment:	
Construction Start Date:	
Start Acceptance Testing:	
Generation In Service:	

GENERATOR or (Solar Panel) INFORMATION		
Manufacturer:	**Type (Model):**	**Phases: 1 or 3**
Rated Output (each unit) kW	**# of Units to be installed:**	**Rated Voltage (Volts):**
Supplier of Equipment		
Address		
Phone		
Additional Information:		

INVERTER		
Manufacturer:	**Model:**	
Rated Power Factor (%):	**Rated Voltage (Volts):**	**Rated Current (Amperes):**
% Total harmonics at full load	**%Current**	**% Voltage**
Inverter Type (ferroresonant, step, pulse-width modulation, etc.):		
Additional Information:		

MISCELLANEOUS (Use this area and any additional sheets for applicable notes and comments)
SIGN OFF AREA:
With this Application, I, the Applicant, requests MEMBER to review the proposed Generation System Interconnection. I request that MEMBER identify any additional equipment and costs/fees involved with the interconnection of this system and to provide an estimate of those costs. I understand that the costs supplied by MEMBER will be estimated using the information provided. I also agree that I will supply, as requested, any additional information requested by MEMBER for evaluation of this proposed Generation System interconnection. I have read the MEMBER Small Renewable Generation Interconnection Procedure and Requirements and will design, operate, and maintain the Generation System and interconnection in accordance with those requirements.
Applicant Name (print):
Applicant Signature: **Date:**
SEND THIS COMPLETED & SIGNED APPLICATION AND ATTACHMENTS TO THE MEMBER COORDINATOR at MEMBER UTILITY

SECTION 8

SMALL RENEWABLE GENERATION INTERCONNECTION REQUIREMENTS FOR INVERTER CONNECTED SYSTEMS RATED LESS THAN 40 kW

TABLE OF CONTENTS

Introduction

Electric distributed generation systems span a wide range of sizes and electrical characteristics. Electrical distribution system designs vary widely from that required to serve the residential customer to that needed to serve the large commercial customer. With so many variations possible, it becomes complex and difficult to create one interconnection standard that fits all generation interconnection situations.

This Technical Requirements document has been written to cover only the technical interconnection requirements to interconnect a specific type and size of generation system with MEMBER; specifically, a PURPA qualified generation system utilizing a Grid Tie Inverter and rated below 40 kW. If your system does not meet these qualifications, then these requirements are not applicable; please refer to the "Distributed Generation Interconnection Requirements" found in Section 10.

This Technical Requirements document is based on assumptions of a "typical" under 40kW Generation System. As a result, there may be areas not covered within this document. In such cases, the "Distributed Generation Interconnection Requirements" located in Section 10 should be referenced.

This document covers only the technical requirements and does not cover the interconnection procedure. Please read the companion document "Small Renewable Generation Interconnection Procedure for Inverter Connected Systems Rated less than 40 kW", located in Section 7, for the description of the procedure to follow for interconnection approval and construction. It is important to also get copies of MEMBER and MRES rates.

A. Definitions

The definitions defined in the "IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems" (IEEE 1547) apply to this document. The following definitions are in addition to the ones defined in IEEE 1547, or are repeated from the IEEE 1547 standard.

1. Area EPS: An electric power system (EPS) that serves Local EPS. Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc. MEMBER is an Area EPS.

2. Generation: Any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device including energy storage technologies.

3. Generation System: The interconnected Distributed Generation(s), controls, relays, switches, breakers, transformers, inverters and associated wiring and cables up to the Point of Common Coupling.

4. Grid Tie Inverter: The inverter is a device that converts DC electricity to AC electricity. While a Grid Tie Inverter usually has been specially designed and constructed to safely interconnect with an Area EPS; for the purposes of this document, a Grid Tie Inverter should also be designed and tested to meet the requirements of IEEE 1547 and ANSI 929 standards and should also be certified with a UL 1741 label.

5. Interconnection Customer: The party or parties who are responsible for meeting the requirements set forth in this document. This could include the Generation System applicant, installer, designer, owner, or operator.

6. Local EPS: An EPS contained entirely within a single premises or group of premises.

7. Point of Common Coupling: The point where the Local EPS is connected to an Area EPS.

8. Type-Certified: Generation paralleling equipment that is listed by an Occupational Safety and Health Administration (OSHA) national testing laboratory as having met the applicable type testing requirement of UL 1741. At the time of preparation of this document, this was the only national standard available for certification of generation transfer switch equipment. Other subsequent forms of type-certification are permitted if acceptable to MEMBER.

B. Interconnection Requirements Goals

This document defines the minimum technical requirements for the implementation of the electrical interconnection between the Generation System and MEMBER's distribution system. It does not define the overall requirements for the Generation System. The requirements in this document are intended to achieve the following:

1. Ensure the safety of MEMBER personnel and contractors working on the electrical power system.

2. Ensure the safety of MEMBER customers and the general public.

3. Protect and minimize the possible damage to the electrical power system and other MEMBER's property.

4. Ensure proper operation to minimize adverse operating conditions on the electrical power system.

C. Area EPS Modifications

Depending upon the size of the Generation System, the location on MEMBER's distribution system, and how the Generation System is operated; certain modifications and/or additions may be required to the existing MEMBER distribution system, due to the addition of the Generation System. To the extent possible, this document describes the modifications, which could be necessary to MEMBER's distribution system for different types of Generation Systems. If any additional modifications are necessary, they will be identified by MEMBER during the application review process.

D. Generation System Protection

The Interconnection Customer is solely responsible for providing protection for the Generation System. Protection systems required in this document are structured to protect MEMBER's distribution system and the public. Additional protection equipment may be required by MEMBER to ensure proper operation for the Generation System. This is especially true when operating disconnected from MEMBER's distribution system. MEMBER and MRES do not assume responsibility for protection of the Generation System equipment or of any portion of the Local EPS.

E. Electrical Code Compliance

The Interconnection Customer shall be responsible for complying with all applicable local, independent, state, and federal codes such as building codes, NEC, NESC, and noise and emissions standards. As required by applicable state law, MEMBER's distribution system will require proof of compliance with the NEC and installation approval by an electrical inspector recognized by an appropriate state governing board before the interconnection.

The Interconnection Customer's Generation System and installation shall comply with the latest applicable revisions of the ANSI/IEEE standards, in particular, IEEE 1547; "Standard for Interconnecting Distributed Resources with Electric Power Systems". See the reference section of this document for a partial list of the industry standards which apply.

References

The following standards shall be used in conjunction with this standard. When the stated version of the following standards is superseded by an approved revision, then that revision shall apply.

IEEE Std 100-2000, "IEEE Standard Dictionary of Electrical and Electronic Terms"

IEEE Std 519-1992, "IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems"

IEEE Std 929-2000,"IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems"

IEEE Std 1547, "IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems"

IEEE Std C37.90.1-1989 (Current Version), "IEEE Standard Surge Withstand Capability (SEC) Tests for Protective Relays and Relay Systems"

IEEE Std C37.90.2 (Current Version), "IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers"

IEEE Std C62.41.2-2002, "IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits"

IEEE Std C62.42-1992 (Current Version), "IEEE Recommended Practice on Surge Testing for Equipment Connected to Low Voltage (1000V and less) AC Power Circuits"

ANSI C84.1-1 995, "Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)"

ANSI/IEEE 446-1995, "Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications"

ANSI/IEEE Standard 142-1991, "IEEE Recommended Practice for Grounding of Industrial a Commercial Power Systems – Green Book"

UL Std. 1741 "Standard for Safety for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources"

NEC – "National Electrical Code", National Fire Protection Association (NFPA), NFPA-70-2002

NESC – "National Electrical Safety Code." ANSI C2-2000, Published by the Institute of Electrical and Electronics Engineers, Inc

Interconnection Issues and Technical Requirements

A. Inverter Connection: This is a continuous parallel connection with the distribution system. Small generation systems may utilize inverters to interface to the MEMBER distribution system. Solar, wind, and fuel cells are some examples of generation which typically use inverters to connect to the MEMBER distribution system. The design of such inverters shall either contain all necessary protection to prevent unintentional islanding or the Interconnection Customer shall install conventional protection to affect the same protection.

1. Inverter Certification - Prior to installation, the inverters shall be Type-Certified for interconnection to the electrical power system. The certification will confirm anti-islanding protection and power quality related levels at the Point of Common Coupling. Also, utility compatibility, electric shock hazard, and fire safety will be approved through UL listing of the model. Once this Type Certification is completed, additional design review of the inverters should not be necessary by the MEMBER.

2. For three-phase operation, the inverter control must also be able to detect and separate for the loss of one phase. Larger inverters will still require customer protection settings which must be calculated and designed to be compatible with the MEMBER distribution system.

3. A visible disconnect is required for safely isolating the distributed generation when connecting with an inverter. The inverters shall not be used as a safety isolation device.

4. When banks of inverter systems are installed at one location, a design review by the MEMBER must be performed to determine if any additional protection systems, metering or other modifications are needed. These additional systems or modifications will be identified by the MEMBER during the interconnection study process.

B. General Requirements - The following requirements apply to the interconnected generating equipment. MEMBER's distribution system shall be considered the source side and the MEMBER's system shall be considered the load side in the following interconnection requirements.

1. Visible Disconnect – A disconnecting device shall be installed to electrically isolate the Inverter from the rest of the load. The visible disconnect shall provide a visible air gap between Interconnection Customer's Generation and MEMBER's distribution system in order to establish the safety isolation required for work on MEMBER's distribution system. This disconnecting device shall be readily accessible 24 hours per day by MEMBER field personnel and shall be capable of being padlocked by MEMBER field personnel. The disconnecting device shall be lockable in the open position.

   The visible disconnect shall be a UL approved or National Electrical Manufacture's Association approved, manual safety disconnect switch of adequate ampere capacity.

The visible disconnect shall not open the neutral when the switch is open.

The visible disconnect shall be labeled, as required by MEMBER.

2. Energization of Equipment by Generation System – The Generation System shall not energize any de-energized portion of MEMBER's distribution system.

3. Fault and Line Clearing – The Generation System shall be removed from MEMBER's distribution system for any faults or outages occurring on the electrical circuit serving the Generation System.

4. Interference – The Interconnection Customer shall disconnect the Distributed Generation from MEMBER's distribution system if the Distributed Generation causes radio, television or electrical service interference to other members or customers, via the EPS or interference with the operation of Area EPS. The Interconnection Customer shall either effect repairs to the Generation System or reimburse MEMBER for the cost of any required modifications to MEMBER's distribution system due to the interference.

5. Unintended Islanding – Under certain conditions with extended parallel operation, a part of MEMBER's distribution system may be disconnected from the rest of MEMBER's distribution system and may require the Generation System to continue to operate and to provide power to a portion of the isolated circuit. This is called "islanding". It is not possible to successfully reconnect the energized isolated circuit to the rest of MEMBER's distribution system since there are no synchronizing controls associated with all of the possible locations of disconnection. Therefore, it is required that the Generation System be automatically disconnected from MEMBER's distribution system immediately by protective relays for any condition that would cause MEMBER's distribution system to be de-energized. The Generation System shall either isolate itself from the MEMBER's distribution system and serve only the Customer's load, or shut down completely. The Generation System must be blocked from closing back into MEMBER's distribution system until MEMBER's distribution system is reenergized and MEMBER's distribution system voltage is within Range B of ANSI C84.1 Table 1 for a minimum of one minute. Depending upon the size of the Generation System, it may be necessary to install direct transfer trip equipment from MEMBER's distribution system source(s) to remotely trip the generation interconnection to prevent islanding for certain conditions.

6. Protective Systems – In general, a Grid Tie Inverter is designed, constructed, and tested so that the necessary protective functions are built into the inverter, to ensure isolation of the generation system from the distribution system. The functions required by IEEE 1547 and IEEE 929 standards include Over/Under Voltage, Over/Under Frequency, phase, and ground overcurrent; so, no further protective equipment is typically necessary. Please note that the NEC or other state or local codes may require you to install additional protective equipment, such as fuses.

7. Disconnection – MEMBER's distribution system operator may refuse to connect, or may disconnect without prior notice, a Generation System from MEMBER's

distribution system under the following conditions:

a. Lack of approved Standard Application Form, and Interconnection and Power Purchase Agreement.

b. Termination of interconnection by mutual agreement.

c. Non-Compliance with the technical or contractual requirements.

d. System Emergency or imminent danger to the public or MEMBER personnel (Safety).

e. Routine maintenance, repairs and modifications to MEMBER's distribution system. MEMBER shall coordinate planned outages with the Interconnection Customer to the best extent possible.

f. Any other reason described in the Interconnection and Power Purchase Agreement.

Generation Metering, Monitoring, and Control

Metering, Monitoring, and Control – For small renewable generation systems less than 40 kW, the following are the Metering, Monitoring, and Control requirements. This document assumes that the Generation System is a QF under the PURPA requirements and that the power is not being sold to a third party.

A. Metering Requirements

For Generation Systems that are QFs under PURPA, metering requirements are:

1. For single-phase Generation Systems, the applicant is required to provide and install a MEMBER-approved single phase meter socket, unless otherwise specified by MEMBER. MEMBER will supply the single-phase metering required. Responsibility of the metering cost will be determined by the MEMBER.

2. For three-phase Generation Systems, the applicant is required to provide a MEMBER-approved commercial three phase meter socket, unless otherwise specified by MEMBER. MEMBER will supply the three-phase metering required. Responsibility for the metering cost will be determined by the MEMBER.

B. Monitoring and Control Requirements

For qualified inverter connected Generation Systems 40 kW and less, there are no requirements for monitoring and remote control of the generation system by MEMBER.

Agreements

A. Interconnection and Power Purchase Agreement – The contract between the Applicant, MEMBER, and MRES defining the parties' respective rights and duties relating to interconnection, operation, and power purchases.

Testing Requirements

A. Certification of Equipment

The most important part of the process to interconnect generation is safety. One of the key components of ensuring safety is to ensure that the design and implementation of the elements connected to the electrical power system operate as required. Therefore, all of the electrical wiring in a business or residence should be listed for its intended purpose by a recognized testing and certification laboratory. Typically we see this referred to as "UL" listed. In order to comply with this requirement, the Inverter used shall be listed by a nationally recognized testing laboratory as having met the applicable type-testing requirements of UL 1741 and IEEE 929. If so listed, the Inverter shall be acceptable for interconnection without additional protection system requirements.

B. Commissioning Testing

The following tests shall be completed by the Interconnection Customer. MEMBER has the right to witness all field testing and to review all records prior to allowing the system to be made ready for normal operation.

1. Before testing – The Generation System shall be inspected and approved by a designated electrical inspector prior to interconnecting the Generation System with the electrical system.

2. Any pre-testing recommended by the equipment manufacturer and/or installer shall be completed prior to the On-line Commissioning Test.

3. On-Line Commissioning Test – MEMBER and the Interconnection Customer shall complete the following tests once the Generation System has completed Pre-testing and the results have been reviewed and approved by MEMBER. Generation System functionally shall be verified for specific interconnections as follows:

    a. Anti-Islanding Test Steps

        i. The Generation System shall be started and operated in parallel with MEMBER's distribution system source.

        ii. MEMBER's distribution system source shall be removed by opening a switch, fuse, or breaker or other means on the MEMBER side of the inverter.

        iii. Under the condition established in step (ii), the Generation System shall stop generating.

iv. Under the condition established in step (ii), the Generation System shall not reenergize any part of the MEMBER's distribution system (Area EPS).

v. The device that was opened to disconnect MEMBER's distribution system source shall be closed and the Generation System shall not re-parallel/reconnect with MEMBER's distribution system for at least 5 minutes or for another agreed-to duration.

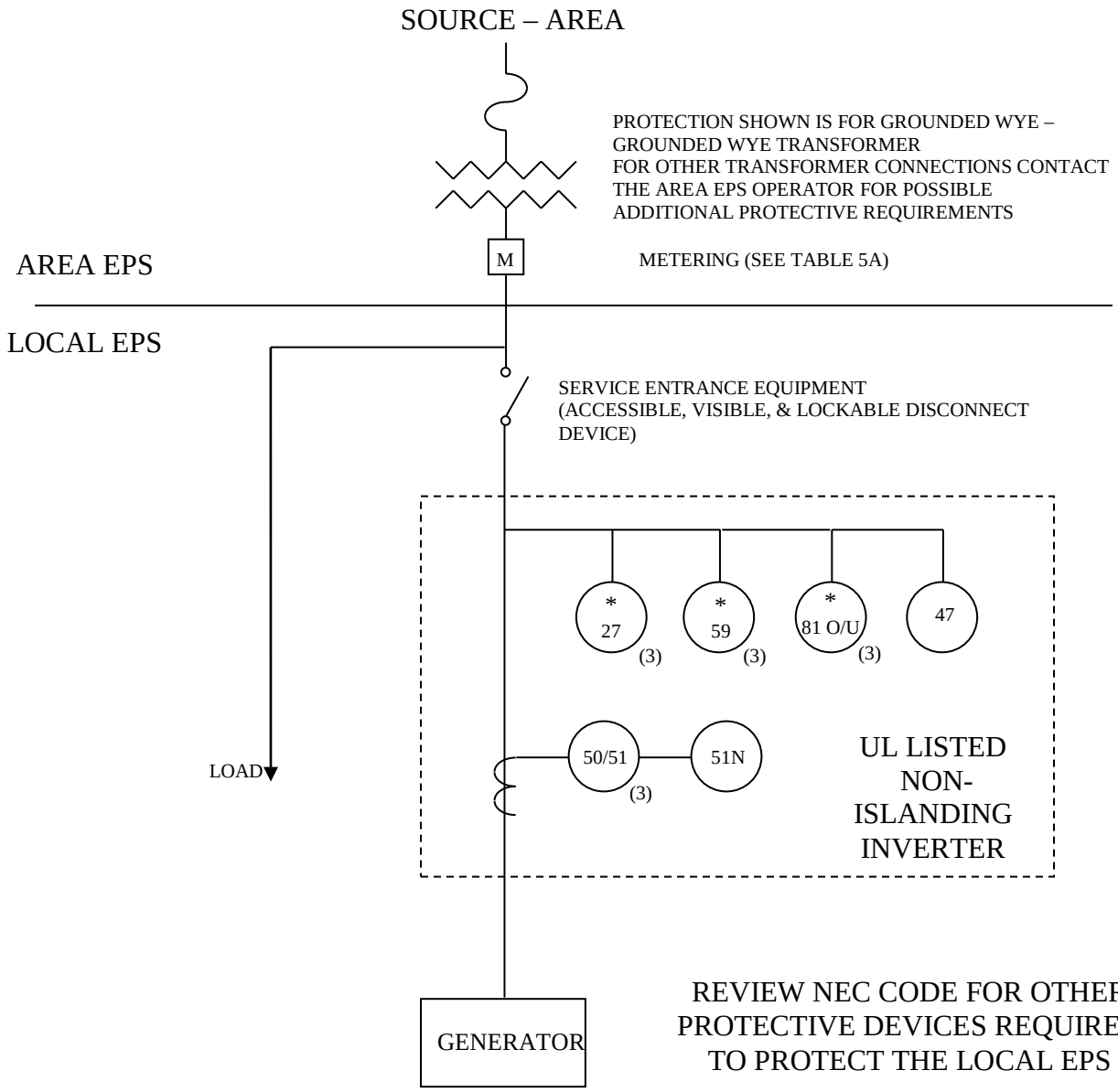
vi. For three phase systems this test will be repeated for each phase of the system and also for a complete three phase loss of Utility power.

C. Periodic Testing and Record Keeping

1. Any time the inverter hardware or software is replaced and/or modified, the MEMBER Coordinator shall be notified. This notification shall be as soon as reasonably possible and, if possible, be provided with sufficient warning so that MEMBER personnel can be involved and/or witness the verification testing. Verification testing shall be completed on the replaced and/or modified equipment and systems. The involvement of MEMBER personnel will depend upon the complexity of the Generation System and the component being replaced and/or modified. Since the Interconnection Customer and MEMBER are now operating an interconnected system, it is important for each to communicate to the other changes in operation, procedures, and/or equipment in order to ensure the safety and reliability of the Local and Area EPS.

2. All interconnection-related protection systems shall be periodically tested and maintained by the Interconnection Customer, at intervals specified by the manufacturer or system integrator. These intervals shall not exceed 5 years. Periodic test reports and a log of inspections shall be maintained by the Interconnection Customer and made available to MEMBER upon request.

Appendix A: Example Inverter Diagram



Device No.	Function
27/59	*Under/Over Voltage
47	Negative Sequence
50/51	Phase Overcurrent
51N	Ground Overcurrent
81 O/U	*Over/Under Frequency

(1) (2) (3) Indicates Number of Phases Monitored

*Indicates Minimum Required Protection.
Other Relays Shown are Recommended for Generator Protection.

INVERTER CONNECTED
DATE: Nov 2009
Figure 1

Appendix B
INTERCONNECTION AND POWER PURCHASE AGREEMENT – SMALL RENEWABLE GENERATION (<40kW)

This Interconnection and Power Purchase Agreement – Small Renewable Generation (<40kW) (the "Agreement") is made and entered into _____, 20__, by and among Missouri Basin Municipal Power Agency, d/b/a Missouri River Energy Services, 3724 West Avera Drive, PO Box 88920, Sioux Falls, SD 57109-8920, a body politic and corporate and public agency organized in Iowa and existing under the laws of the States of Iowa, Minnesota, North Dakota and South Dakota ("MRES"), _____, [Address] ("Utility"), and _____, with an address as set forth in Exhibit A hereto ("Customer").

RECITALS

A. Customer has installed, or plans to install, electric generating facilities rated at less than 40 kilowatts of electricity on certain real property owned or leased by Customer, which facilities and property are more particularly described in Exhibit A hereto. The generating facilities are hereinafter referred to as the "Qualifying Facility".

B. Utility is a municipal utility that owns and operates an electrical distribution system (the "Utility System") and provides retail electric power to Customer and other customers.

C. MRES is a joint action agency that supplies wholesale electric power supply to Utility pursuant to a long-term exclusive supply contract that requires Utility to purchase from MRES all electric power supply in excess of that provided by Western Area Power Administration.

D. Pursuant to a waiver/agreement with the Federal Energy Regulatory Commission under the Public Utilities Regulatory Policies Act ("PURPA"), MRES is required to purchase power from "qualifying facilities," as defined by PURPA, and Utility is required to interconnect, supply power to, and allow qualifying facilities to operate in parallel with the Utility System. MRES and Utility are also permitted, but not required, to take such actions with respect to electric generating facilities which do not constitute "qualifying facilities" under PURPA.

E. Customer desires to interconnect and operate the Qualifying Facility in parallel with the Utility System and sell power generated by the Qualifying Facility to MRES, and Utility and MRES are willing to do so pursuant to the terms and conditions of this Agreement.

NOW, THEREFORE, the parties hereby agree as follows:

1. Scope and Purpose. This Agreement sets forth the terms and conditions under which the Qualifying Facility may be interconnected to, and operated in parallel with, the Utility System and under which MRES will purchase power generated by the Qualifying Facility. This Agreement does not constitute an agreement by MRES or Utility to deliver power generated by the Qualifying Facility or to provide any services to Customer except as described in this Agreement.

2. Interconnection Rules. The procedures and technical requirements governing the interconnection and operation of the Qualifying Facility are described in the documents of Utility

entitled "Small Renewable Generation Interconnection Procedure for Inverter Connected Systems Rated Less Than 40kW" (the "Procedures") and "Small Renewable Generation Interconnection Requirements for Inverter Connected Systems Rated Less Than 40kW" (the "Requirements"), each as may be amended by Utility from time to time (collectively, the "Interconnection Rules"). Utility shall have the right to amend the Interconnection Rules from time to time in its sole discretion. The Interconnection Rules are incorporated and made part of this Agreement by this reference. Customer acknowledges it has received a copy of the Interconnection Rules and agrees to comply with the terms of the Interconnection Rules. In the event any terms of this Agreement conflict with the terms of the Interconnection Rules, the terms of this Agreement shall govern.

3. Point of Common Coupling. The point where the electrical facilities of the Utility System electrically connect to the electrical facilities of the Qualifying Facility is the "Point of Common Coupling" as shown on the diagram attached hereto as Exhibit B. Exhibit B shall depict the Point of Common Coupling, the location of meter(s), the point of delivery, and such other detail as may be required by Utility. Customer and Utility shall interconnect the Qualifying Facility to the Utility System at the Point of Common Coupling in accordance with the Interconnection Rules and all applicable laws, regulations and prudent utility practices. Utility and Customer shall each own and be responsible for the installation, maintenance and repair of the lines, wires, switches and other equipment on their respective sides of the Point of Common Coupling. Unless otherwise specified in Exhibit A, Customer, at its cost, shall furnish, install, own, maintain and repair all interconnection equipment required at the Point of Common Coupling, in accordance with the Interconnection Rules and applicable laws, regulations and prudent utility practices. Final electrical connections between the Utility System and the Qualifying Facility shall be made by Utility.

4. Installation, Operation and Maintenance of Qualifying Facility. Customer shall install, operate and maintain the Qualifying Facility in accordance with the terms of this section.

a. Responsibility; Standards. Customer shall install, operate, maintain, repair and inspect the Qualifying Facility and shall be fully responsible for the Qualifying Facility, unless otherwise specified in Exhibit A. Customer's installation, operation, maintenance and repair of the Qualifying Facility shall be in accordance with this Agreement, the Interconnection Rules, all applicable laws, regulations, ordinances and building codes, and, as applicable, the National Electrical Safety Code ("NESC"), American National Standards Institute ("ANSI"), Institute of Electrical and Electronic Engineers ("IEEE"), National Electrical Code ("NEC"), and Underwriter's Laboratory ("UL"). In addition, Customer shall maintain the Qualifying Facility in accordance with applicable manufacturers' recommended maintenance schedules.

b. Costs. Unless otherwise specified in Exhibit A, Customer shall be responsible for all costs associated with the Qualifying Facility, including all costs of installation, operation, maintenance, inspection and repair. Any costs incurred by Utility due to interconnection of the Qualifying Facility which exceed interconnection costs that would be incurred to interconnect a comparable non-generating customer shall be paid by Customer.

c. Permits. Prior to installation of the Qualifying Facility, Customer shall obtain all environmental and other permits required by any governmental authorities to

install, own and operate the Qualifying Facility. Customer shall maintain and comply with the requirements of all such permits during the term of this Agreement.

d. Disruption to Utility System. Customer shall design, install, equip, maintain, operate and repair the Qualifying Facility to insure that the Utility System and Utility's service to other customers are not adversely affected by the Qualifying Facility, either due to disruptions to the Utility System or power quality issues.

e. Alterations. Customer shall not materially alter, modify or add to the Qualifying Facility without receiving prior written consent of Utility in accordance with this subsection. Not less than twenty (20) days prior to the commencement of any proposed alteration, modification or addition to the Qualifying Facility, Customer shall notify Utility of the proposal and provide Utility with all information reasonably required by Utility to review such proposal, including any change in generation capacity of the Qualifying Facility and any alterations to applicable interconnection equipment. Utility shall have ten (10) days to either deny Customer's proposal, consent to Customer's proposal with conditions, or consent to Customer's proposal without conditions.

f. Operator in Charge. Customer shall identify an individual (by name or title) who will act as "Operator in Charge" of the Qualifying Facility. This individual must be familiar with the terms of this Agreement, the Interconnection Rules, and any other laws, regulations or agreements that may apply to the Qualifying Facility.

5. Operation of Utility System. Utility shall operate, maintain and repair the Utility System in accordance with this Agreement, the Interconnection Rules, all applicable laws, rules, ordinances and building codes, and, as applicable, the NESC, ANSI, IEEE, NEC, and UL.

6. Electric Service. Utility shall provide electric service to Customer for the electricity requirements of Customer not supplied by the Qualifying Facility. Such electric service shall be supplied by Utility under the rules and rate schedules of Utility applicable to Customer's class of service, as revised from time to time by Utility in its sole discretion.

7. Cooperation. Customer and Utility shall promptly notify one another upon the occurrence of any malfunction error, disturbance, emergency or hazardous condition relating to its facilities which may adversely impact the safety or effective operation of the other party's facilities.

8. Metering.

a. Metering Equipment. Utility shall purchase, own, install and maintain such metering equipment as is necessary to meter all electrical energy of the Qualifying Facility delivered to the Utility System. The metering equipment and cost responsibilities associated with such equipment are set forth in Exhibit A. Utility shall test the metering equipment on a scheduled basis. If the metering equipment fails to register proper amounts or the registration thereof becomes so erratic as to be meaningless, the energy delivered to the Utility System shall be determined by Utility from the best information available.

b. Metering Arrangement. The metering arrangement used to meter and record electrical energy delivered from the Qualifying Facility to the Utility System, and from the Utility to Customer, is described in attached Exhibit C.

9. Testing. Customer shall test the Qualifying Facility and interconnection equipment and provide to Utility all records of testing in accordance with the Interconnection Rules. Such testing shall occur prior to commencement of operation of the Qualifying Facility and periodically thereafter, in accordance with the Interconnection Rules or as otherwise requested by Utility. Utility and MRES shall have the right to witness all field testing and review all records prior to allowing the Qualifying Facility to commence normal operations. Such tests are for purposes of assuring the protection and operation of the Utility System and in no way represent any assurance of protection and operation of the Qualifying Facility.

10. Right of Access; Inspection. Utility and MRES shall have the right to inspect the Qualifying Facility and observe the Qualifying Facility's installation, commissioning, startup, operation and maintenance. Utility and MRES shall have access to the Qualifying Facility for any reasonable purpose in connection with the interconnection described in this Agreement or the Interconnection Rules or to provide service to other customers.

11. Disconnection. The Qualifying Facility shall or may be disconnected from the Utility System at such times as described in, and in accordance with, the terms of this section.

a. Disconnection by Customer. Customer shall disconnect the Qualifying Facility from the Utility System upon the effective date of the termination of this Agreement as described in Section 18 below.

b. Disconnection by Utility. Utility shall have the right to disconnect, or cause Customer to disconnect, the Qualifying Facility from the Utility System for the following reasons: (i) to allow Utility to operate, construct, install, maintain, repair, replace or inspect any facilities of Utility; (ii) the disruption or potential disruption of the Utility System as described in Section 4(d) above; (iii) the presence of a condition which could cause injury or loss of life or damage to the Utility System or property of a third party; (iv) if Utility is required to disconnect by MRES or Utility's transmission provider; (v) Customer's noncompliance with the terms of this Agreement; (vi) the termination of this Agreement as provided in Section 18 below; or (vii) any other reason for disconnection as set forth in the Interconnection Rules. Utility shall use reasonable efforts to provide prior notice and coordination of any disconnection of the Qualifying Facility due to routine maintenance, repairs or modifications to the Utility System. Neither Utility nor MRES shall be liable to Customer for any damages, losses or other liabilities, including consequential damages, due to the disconnection of the Qualifying Facility as described in this section.

12. Interconnected Operation. Customer may operate interconnected with the Utility System only in accordance with this Agreement and the Interconnection Rules. Utility, MRES and Customer shall comply with all requirements of the transmission provider and any regulatory authorities having jurisdiction over distributed generation interconnected to the Utility System.

13. Power Sales to MRES. MRES shall purchase all electrical energy generated by the Qualifying Facility which is delivered to the Utility System. The rate paid by MRES for such electrical energy shall be equal to the sum of: (a) the MRES PURPA Rate for qualifying facilities of 100kW or less, as adjusted from time to time by MRES in its discretion, and (b) the Loss Factor Adjustment, as adjusted from time to time by MRES and Utility in their discretion. The MRES PURPA Rate and the Loss Factor Adjustment, along with their currently applicable amounts, are described in attached Exhibit C. Customer shall receive payment for electrical energy sales to MRES through a credit on Customer's monthly invoice from Utility, which credit may be one month in arrears. MRES, in turn, shall credit the monthly wholesale power supply bill submitted by MRES to Utility in an amount equal to the electrical energy purchases of MRES from the Qualifying Facility during the preceding month. Utility shall provide to MRES, as soon as available following the end of each month, data indicating the amount of electrical energy purchased by MRES from the Qualifying Facility during the preceding month.

14. Limitation of Liability. Neither Utility nor MRES shall be liable to Customer for any punitive, incidental, indirect, special or consequential damages, including for loss of business opportunity or profits, resulting from or arising from Utility's or MRES performance or non-performance of its obligations under this Agreement. In addition, and notwithstanding any other provision in this Agreement, Utility's liability to Customer under this Agreement shall be further limited as set forth in Utility's tariffs and/or terms and conditions for electric service, which limitations are incorporated herein by this reference.

15. Indemnification. Customer shall indemnify, defend and hold harmless Utility and MRES from and against any and all damages, losses, claims, costs and expenses, including reasonably attorneys' fees and court costs, arising out of or resulting from Customer's performance or non-performance of its obligations under this Agreement, except in the event such damages, losses or claims were caused solely by the negligence or intentional acts of the party to be indemnified.

16. Insurance. If the Qualifying Facility has a nameplate capacity of 10 kilowatts or less, Customer shall maintain general liability insurance coverage, such as homeowner's insurance, in an amount sufficient to insure against all reasonably foreseeable direct liabilities in light of the size of the Qualifying Facility. If the Qualifying Facility has a nameplate capacity of more than 10 kilowatts, Customer shall maintain general liability insurance in an amount determined by Utility, provided such amount does not exceed $300,000. All such insurance shall include coverage against claims for damages resulting from bodily injury, death and property damage arising out of Customer's ownership and operation of the Qualifying Facility. Such insurance, by proper endorsement, shall include Utility as an additional insured and shall provide for thirty (30) days' written notice to Utility of cancellation, termination, alteration or material change of such insurance. Customer shall furnish proof of the insurance required by this section prior to initial operation of the Qualifying Facility and thereafter as requested by Utility.

17. Default; Remedies. A party shall be in default under this Agreement if such party fails to comply with, observe or perform, or defaults in the performance of, any covenant or obligation under this Agreement and fails to cure the failure within thirty (30) days' after receiving written notice from another party, which notice shall identify the basis of the default. If a default is not cured within the cure period, the non-defaulting party or parties shall have the right to

terminate this Agreement by written notice to the defaulting party, shall be relieved of any further obligation under this Agreement, and shall be entitled to pursue all other damages and remedies available under this Agreement or at law or in equity.

18. Term. This Agreement shall take effect upon execution by all parties hereto and shall remain in effect unless terminated in accordance with this section. This Agreement may be terminated as follows: (a) any party may terminate this Agreement at any time upon ninety (90) days' written notice to the other parties; (b) Utility or MRES may terminate this Agreement at any time upon thirty (30) days' written notice to the other parties if the Qualifying Facility is not, or at any time ceases to be, a "qualifying facility" under PURPA; (c) any party may terminate this Agreement after a default under Section 17 above; and (d) MRES may terminate this Agreement upon sixty (60) days' written notice to the other parties in the event MRES determines that its purchase of electrical energy generated by the Qualifying Facility under Section 13 above would result in cost greater than those which MRES would incur if it did not make such purchases, as permitted by the PURPA waiver/agreement described in Recital D above. In the event this Agreement is terminated pursuant to subsection (d), Utility and Customer shall enter into a new agreement which defines their respective rights and obligations with respect to the interconnection and operation of the Qualifying Facility to and with the Utility System in accordance with PURPA.

19. Force Majeure. For purposes of this Agreement, a force majeure event is any event that is beyond the reasonable control of the affected party and that the affected party is unable to prevent by exercising reasonable diligence, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: acts of war, terrorism, public disorder, rebellion or insurrection; floods, hurricanes, earthquakes, lighting, storms or other acts of God; explosions or fires; strikes, work stoppages or labor disputes; embargoes; and sabotage. If a force majeure event prevents a party from fulfilling its duties under this Agreement, such party shall promptly notify the other party in writing and shall keep the other party informed on a continuing basis of the scope and duration of the force majeure event. The affected party shall specify the circumstances of the force majeure event, its expected duration, and the steps being taken to mitigate the effect of the event. The affected party shall be entitled to suspend or modify its performance under this Agreement but will use reasonable efforts to resume its performance as soon as possible.

20. Non-Warranty. Neither by inspection, if any, nor by non-rejection or in any other way does Utility or MRES give or make any warranty, express or implied, as to the adequacy, safety or other characteristics of any lines, wires, switches, or other equipment or structures owned, installed or maintained by Customer.

21. Assignment. Customer may assign this Agreement to an entity or individual to whom Customer transfers ownership of the Qualifying Facility, so long as Customer obtains prior written consent of Utility and MRES, which consent shall not be unreasonably withheld, and such assignee agrees in writing to assume all obligations of Customer under this Agreement. Utility and/or MRES may assign this Agreement upon written notice to Customer.

22. No Waiver. The failure of a party to insist, on any occasion, upon strict performance of any provision of this Agreement shall not be considered to waive the obligations, rights or duties imposed upon the parties.

23. Notices. Notices given under this Agreement shall be deemed to have been duly delivered if hand delivered or sent by United States certified mail, return receipt requested, postage prepaid, to the respective addresses of the parties set forth in the opening paragraph of this Agreement. Such addresses may be changed by written notification to the other parties.

24. Severability. If any provision of this Agreement is adjudged by any court of competent jurisdiction to be illegal or unenforceable, such provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

25. Entire Agreement; Amendments. This Agreement, including the Interconnection Rules and all Exhibits hereto, constitutes the entire agreement and understanding between the parties concerning the subject matter of this Agreement. The parties are not bound by or liable for any statement, representation, promise, understanding or undertaking of any kind or nature, whether written or oral, with regard to the subject matter hereof not set forth or provided for herein. It is expressly acknowledged that the parties may have other agreements covering other services not expressly provided for in this Agreement, which agreements are unaffected by this Agreement. This Agreement may be amended only upon mutual agreement of the parties, which amendment will not be effective until reduced to writing and executed by the parties.

26. Governing Law; Jurisdiction. This Agreement and the rights and obligations of the parties hereunder shall be construed in accordance with and shall be governed by the laws of the state in which Utility is located.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have caused this Interconnection and Power Purchase Agreement – Small Renewable Generation (<40kW) to be signed by their respective duly authorized representatives.

[UTILITY NAME]	[CUSTOMER NAME]
BY: _____	BY: _____
TITLE: _____	TITLE: _____
DATE: _____	DATE: _____

MISSOURI RIVER ENERGY SERVICES

BY: _____
TITLE: _____
DATE: _____

EXHIBIT A
DESCRIPTION OF QUALIFYING FACILITY

1. Name and Address of Customer:

2. Location of Qualifying Facility (mailing address or legal description of property):

3. Description of Qualifying Facility (make, model):

4. Interconnected capacity (kW):

5. Interconnection voltage:

6. Technical aspects of metering (type, voltage, location, loss adjustments, other):

7. Equipment to be furnished by Utility, if any:

8. Cost responsibilities of Utility, if any:

EXHIBIT B
ONE LINE DIAGRAM OF POINT OF INTERCONNECTION

EXHIBIT C
METERING ARRANGEMENT AND PURCHASE RATE

1. MRES PURPA Rate. The rate to be paid by MRES for electrical energy purchased from the Qualifying Facility under Section 13 of the Agreement shall be equal to the MRES PURPA rate for 100kW or less, as established by MRES in its sole discretion each year or upon other intervals as determined by MRES. The MRES PURPA rate for 100kW or less for 2010 is $0.0265/kWh. MRES shall notify Utility, and Utility shall notify Customer, of any change in such rate adopted by MRES. Customer's right to payments under Section 13 is subject to Customer's compliance with the terms, covenants and conditions of the Agreement.

2. Loss Factor Adjustment. The MRES PURPA Rate for 100 kW or less, as described in Section 1 above, shall be increased by a percentage factor to reflect the savings resulting from reduced Utility System losses associated with electrical energy purchased from the Qualifying Facility under Section 13 of the Agreement. For example, if the Loss Factor Adjustment was 5%, the Loss Factor Adjustment to the 2010 MRES PURPA Rate, in dollars, would be $0.001325 ($0.0265 x 0.05), causing the total combined rate paid for power purchased from the Qualifying Facility to be $0.027825/kWh. Utility and MRES shall establish the Loss Factor Adjustment each year or upon other intervals as they determine, and Utility shall notify Customer of any change in this factor. The Loss Factor Adjustment for 2010 is _____%.

3. Metering Arrangement. The metering shall be such that all power delivered to Utility from the Qualifying Facility (net of Customer's own use) shall be measured separately from power delivered from Utility to Customer. The meter measuring power delivered to Customer shall not permit reduction of measured power already delivered to Customer during periods when the Qualifying Facility generation exceeds Customer demand. The meter may not run backwards. Utility shall credit Customer's monthly bill for power received by the Utility System and purchased by MRES.

4. Environmental Attributes. Power purchased by MRES from the Qualifying Facility does not include any environmental attributes (i.e., renewable energy credits), if any, associated with the environmental character of the Qualifying Facility, nor any federal income tax credits for renewable energy that are accruable to Customer with respect to the Qualifying Facility.

SECTION 9

DISTRIBUTED GENERATION
INTERCONECTION PROCEDURE

Introduction

This document has been prepared to explain the process established to interconnect a Generation System with the MEMBER distribution system. This document covers the interconnection process for all types of Generation Systems which are rated between 40 kW - 10 MW or less of total generation Nameplate Capacity, are planned for interconnection with MEMBER Distribution System, are not intended for wholesale transactions, and are not anticipated to affect the transmission system. This document does not discuss the interconnection Technical Requirements, which are covered in the **"**Distributed Generation Interconnection Requirements**"** document. "Distributed Generation Interconnection Requirements" also provides definitions and explanations of the terms utilized herein.

To interconnect a Generation System with the MEMBER distribution system, there are several steps that must be followed. This document outlines those steps and the Parties' responsibilities. At any point in the process, if there are questions, please contact the MEMBER Coordinator. Since this document has been developed to provide an interconnection process which covers a very diverse range of Generation Systems, the process appears to be very involved and cumbersome. However, for many Generation Systems the process is streamlined and provides an easy path for interconnection.

The promulgation of interconnection standards for Generation Systems by state public utility commissions or boards (Commission/Board) must be done in the context of a reasonable interpretation of the boundary between state and federal jurisdiction. Some state regulators have jurisdiction over municipal utilities such as the MEMBER. FERC has asserted authority over interconnection at transmission. This, however, leaves open the question of jurisdiction over interconnection at the distribution level. The Midwest Independent Transmission System Operator's (MISO) FERC Electric Tariff, (first revised volume 1, August 23,2001) Attachment R (Generator Interconnection Procedures and Agreement), section 2.1, states that "Any existing or new generator connecting at transmission voltages, sub-transmission voltages, or distribution voltages, planning to engage in the sale for resale of wholesale energy, capacity, or ancillary services requiring transmission service under the Midwest ISO OATT must apply to the Midwest ISO for interconnection service". Section 2.4 states that "A Generator not intending to engage in the sale of wholesale energy, capacity, or ancillary services under the Midwest ISO OATT, that proposes to interconnect a new generating facility to the distribution system of a Transmission Owner or local distribution utility interconnected with the Transmission System shall apply to the Transmission Owner or local distribution utility for interconnection". It further states, "Where facilities under the control of the Midwest ISO are affected by such interconnection, such interconnections may be subject to the planning and operating protocols of the Midwest ISO…."

As a practical matter, it has been determined that if the sum of the existing generation and the Generation System Nameplate Capacity of the additional is not greater in size than the

minimum expected load on the distribution substation, which is feeding the proposed Generation System, and if the Generation System's energy is not being sold on the wholesale market; then the installation may be considered as not "affecting" the transmission system. In such a case, the interconnection may be governed by the process outlined herein. If the Generation System will be selling energy on the wholesale market or if the sum of the existing and proposed Generation System's total Nameplate Capacity is greater than the expected distribution substation minimum load; then the Applicant shall contact MISO and follow MISO procedures for interconnection.

MEMBER will conduct a high level review to confirm, that with the incremental addition of this generation into the MEMBER Distribution System, that sum of all generation injected does not exceed 50% of the minimum annual hourly load at the MEMBER distribution substation. If it does exceed 50% of the minimum annual hourly load at the MEMBER substation, a more detailed analysis may be needed including discussions with and evaluations by MRES to confirm there are no significant transmission impacts related to the addition of the interconnected generation.

General Information

A. Definitions

1. Applicant: The person or entity which is requesting the interconnection of the Generation System with the MEMBER distribution system and is responsible for ensuring that the Generation System is designed, operated, and maintained in compliance with the Technical Requirements.

2. Area EPS: An electric power system (EPS) that serves the Local EPS. Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc. MEMBER is an Area EPS.

3. MEMBER Operator: The entity who operates the MEMBER distribution system.

4. Dedicated Facilities: The equipment that is installed due to the interconnection of the Generation System and not required to serve other MEMBER customers.

5. Distribution System: The MEMBER facilities which are not part of the Transmission System or any Generation System.

6. Extended Parallel: The Generation System is designed to remain connected with the MEMBER distribution system for an extended period of time.

7. Generation: Any device producing electrical energy, i.e.: rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.

8. MEMBER Coordinator: The person or persons designated by MEMBER to provide a single point of coordination with the Applicant for the generation interconnection process.

9. Generation System: The interconnected generator(s), controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables, up to the Point of Common Coupling.

10. Interconnection Customer: The party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.

11. Local EPS: An EPS contained entirely within a single premises or group of premises

12. Nameplate Capacity: The total nameplate capacity rating of all the Generation included in the Generation System. For the purpose of this document, the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

13. Open Transfer: A method of transferring the local loads from the MEMBER distribution system to the generator such that the generator and the MEMBER distribution system are never connected together.

14. Point of Common Coupling: The point where the Local EPS is connected to the MEMBER distribution system

15. Quick Closed: A method of generation transfer which does not parallel, or parallels for less than 100msec, with the MEMBER Distribution System and has utility grade timers, which limit the parallel duration to less than 100 msec with MEMBER.

16. Technical Requirements: The MEMBER Distributed Generation Interconnection Requirements.

17. Transmission System: Those facilities as defined by using the guidelines established by MISO, state commission, or board; this is generally at voltages greater than 15 kV.

B. MEMBER Coordinator

MEMBER has designated a Coordinator, who will provide a single point of contact for Applicant's questions on this Generation Interconnection process. This Coordinator will typically not be able to directly answer or resolve all of the issues involved in the review and implementation of the interconnection process and standards, but is available to provide coordination assistance with the Applicant. The Coordinator is listed on the MEMBER Website http://www.cityofpella.com/ or phone MEMBER and ask for the Coordinator.

C. Engineering Studies

During the process of design of a Generation System interconnection between a Generation System and MEMBER, there are several studies which may need to be undertaken. On the Local EPS (Customer's side of the interconnection), the addition of a Generation System may increase the fault current levels even if the generation is never interconnected with MEMBER's system. The Interconnection Customer may need to conduct a fault current analysis of the Local EPS in conjunction with adding the Generation System. The addition of the Generation System may also affect the MEMBER's distribution system and special engineering studies may need to be undertaken looking at the MEMBER system with the Generation System included. Appendix D, "Engineering Studies Required", lists some of the areas which may trigger further analysis.

While it is not possible to give a blanket answer herein as to which engineering studies may be required, the following list covers those items that will be evaluated in the initial review of the installation, in order to determine if additional detailed study work is required:

1. Comparison of the Generation System Nameplate Capacity with the expected peak load on the circuit to which it will be attached.

2. An evaluation of all generation capacity present on the circuit to which it will be attached, including an evaluation of the generation capacity in comparison with the circuit's minimum load.

3. An evaluation of the generation capacity as it relates to the specific line section to which it will be connected.

4. An evaluation of the estimated fault current contributed to the circuit, in comparison to the fault current delivered by the MEMBER's distribution system.

5. An evaluation of interrupting ratings for equipment present on the distribution system.

D. Scoping Meeting

During Step 2 of this process (See Step 2: Preliminary Review by the MEMBER on page 10), the Applicant or the MEMBER Operator has the option to request a scoping meeting. The purpose of the scoping meeting is to discuss the Applicant's interconnection request and to review the application. The scoping meeting also allows each Party to gain a better understanding of the issues involved with the requested interconnection. MEMBER and Applicant shall bring to the meeting any personnel, including system engineers, or other resources which are necessary to address the issues presented at the meeting. The Applicant shall not expect MEMBER to complete the preliminary review of the proposed Generation System

at the scoping meeting. If a scoping meeting is requested, MEMBER shall schedule the scoping meeting within the 30 business day review period. MEMBER shall then have an additional 14 days after the completion of the scoping meeting to complete the formal response required in Step 2. The Application fee shall cover MEMBER's costs for this scoping meeting. There shall be no additional charges imposed by MEMBER for this initial scoping meeting.

E. Insurance

1. At a minimum, in compliance with the Interconnection Customer's duties and obligations under this Agreement, the Interconnection Customer shall maintain general liability insurance during the term of the Agreement from a qualified insurance agency with a B+ or better rating by "Best" and which has a combined single limit of not less than:

    a. Two million dollars ($2,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is greater than 250kW.

    b. One million dollars ($1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40kW and 250kW.

    c. Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death and (ii) property damage arising out of the Interconnection Customer's ownership and/or operation of the Generation System under this Agreement.

2. The general liability insurance required shall, by endorsement to the policy or policies: (a) include MEMBER as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that MEMBER shall not incur liability to the insurance carrier for the payment of the premium by reason of its inclusion as an additional insured; and (d) provide for thirty (30) calendar days' written notice to MEMBER prior to cancellation, termination, alteration, or material change of such insurance.
3. The Interconnection Customer shall furnish the required insurance certificates and endorsements to MEMBER prior to the initial operation of the Generation System. Thereafter, MEMBER shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance

4. Evidence of insurance required in Section F.1. shall state that the coverage provided is primary and is not in excess to or contributing to any insurance or self-insurance maintained by MEMBER .

5. If the Interconnection Customer is self-insured with an established record

of self-insurance, the Interconnection Customer may comply with the following in lieu of Section F.1-4:

a. Interconnection Customer shall provide to MEMBER evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under section F.1 at least thirty (30) days prior to the date of initial operation.

b. If Interconnection Customer ceases to self-insure at the level required herein, or if the Interconnection Customer is unable to provide continuing evidence of its ability to self-insure, the Interconnection Customer will immediately obtain the coverage required under section F.1.

6. Failure of the Interconnection Customer or MEMBER to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.

F. Pre-Certification

The most important element in interconnecting generation with the Local EPS and MEMBER's distribution system is safety. One of the key components of ensuring the safety of the public and employees is to ensure that the design and implementation of the elements connected to the electrical power system operate as required. Therefore, all of the electrical wiring in a business or residence is required by the state to be listed for its intended purpose by a recognized testing and certification laboratory. Typically this is listed as "UL". Because Generation Systems tend to be uniquely designed for each specific installation, the Systems have been designed and approved by Professional Engineers. The process in this document is tailored to be able to address these uniquely designed systems. As the number of Generation Systems installed increase, vendors are working towards creating equipment packages which could be tested in the factory and would only require limited field testing. This would allow MRES and MEMBER to move towards "plug and play" installations. As a result, the interconnection process herein recognizes the efficiency of "pre-certification" of Generation System equipment packages as helping to streamline the design and installation process.

An equipment package shall be considered certified for interconnected operation if it has been submitted by a manufacturer, tested, and listed by a nationally recognized testing and certification laboratory (NRTL) for continuous utility interactive operation in compliance with the applicable codes and standards. Presently, generation paralleling equipment that is listed by an NRTL as having met the applicable type-testing requirements of UL 1741 and IEEE 929 shall be acceptable for interconnection without additional protection system requirements. An "equipment package" shall include all interface components, including switchgear, inverters, or other interface devices and may include an integrated generator or electric source. If the equipment package has been tested and listed

as an integrated package which includes a generator or other electric source, it shall not require further design review, testing, or additional equipment to meet the certification requirements for interconnection. If the equipment package includes only the interface components (switchgear, inverters, or other interface devices), then the Interconnection Customer shall show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for the package. Provided the generator or electric source combined with the equipment package is consistent with the testing and listing performed by NRTL, no further design review, testing, or additional equipment shall be required to meet the certification requirements of this interconnection procedure. A certified equipment package does not include equipment provided by MEMBER.

The use of Pre-Certified equipment does not automatically qualify the Interconnection Customer to be interconnected to MEMBER. An application will still need to be submitted and an interconnection review may still need to be performed to determine the compatibility of the Generation System with the MEMBER distribution system.

G. Confidential Information

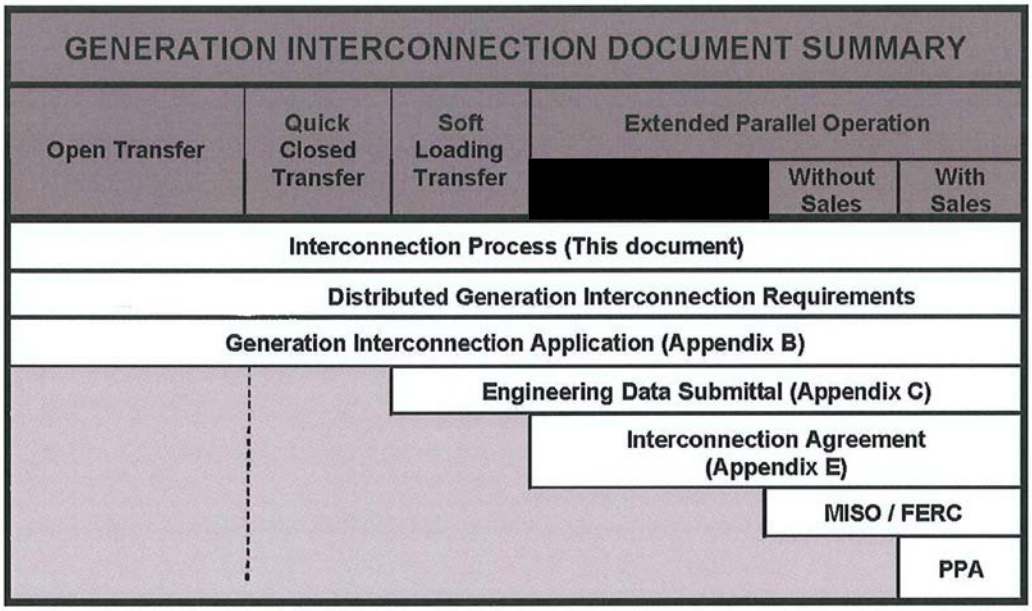
Except as otherwise agreed, each Party shall hold in confidence and shall not disclose confidential information to any person (except employees, officers, representatives and agents, who have agreed to be bound by these confidentiality olibgations). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency, or entity with the right, power, and authority to do so, requests or requires either Party--by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise--to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this confidentiality obligation. In the absence of a protective order or waiver, the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that any confidential information so furnished will be accorded confidential treatment.

H. Non-Warranty

Neither by inspection, if any, or non-rejection, nor in any other way, does MEMBER or MRES give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances, or devices owned, installed, maintained, or leased by the Applicant, including, without limitation, the Generation System and any structures, equipment, wires, appliances, or devices pertinent thereto.

I. Required Documents

The chart below lists the documents required for each type and size of Generation System proposed for interconnection. Find your type of Generation System interconnection, across the top, then follow the chart straight down, to determine what documents are required as part of the interconnection process.



Interconnection Procedure = "MEMBER Interconnection Procedure for Distributed Generation Systems."

MEMBER Distributed Generation Interconnection Requirements = "MEMBER Distributed Generation Interconnection Requirements."

Generation Interconnection Application = The application form in Appendix B of this document.

Engineering Data Submittal = The Engineering Data Form/Agreement, which is attached as Appendix C of this document.

Interconnection Agreement = "Interconnection Agreement for the Interconnection of Extended Parallel Distributed Generation Systems with Electric Utilities", which is attached as Appendix E to this document.

MISO = Midwest Independent Transmission System Operator, www.midwestiso.org.

FERC = Federal Energy Regulatory Commission, www.ferc.gov.

PPA = Power Purchase Agreement.

Procedure For Generator for 40 kW or Greater

LONG FORM Track: Step 1- Submit Application

MEMBER Contact provides Customer with appropriate application and procedures.

Customer will then supply MEMBER with the following information:

1. Completed Generation Interconnection Application (Appendix C), including;
    a. One-line diagram showing:
        i. Protective relaying
        ii. Point of Common Coupling
    b. Site plan of the proposed installation.
    c. Proposed schedule of the installation.
2. Payment of the application fee, according to the following sliding scale.

Generation Interconnection Application Fees

Interconnection Type	*>40kW & ≤250kW*	>250kW & ≤500kW	> 500 kW & ≤1000kW	>1000 kW
Extended Parallel (Pre-Certified System)	**$250**	**$1000**	**$1000**	**$1500**
Other Extended Parallel Systems	**$500**	**$1500**	**$1500**	**$1500**

For the Application Fees chart above, the size (kW) of the Generation System is the total maximum Nameplate Capacity of the Generation System.

This application fee is to reimburse MEMBER for labor costs associated with administration services, review of the design concept, and preliminary engineering screening for the proposed generation system interconnection.

Step 2: Preliminary Review by MEMBER

Within thirty (30) business days of receipt of all the information listed in Step 2, the MEMBER Contact will respond to the Customer with the information listed below in "Results of Preliminary Review."

If the information required in Step 2 is not complete, the Customer will be notified by MEMBER within ten (10) business days of the information that is needed. No further review will take place until the missing information is submitted. The fifteen (15)-day

clock will restart with the submittal of the new or additional information.

Results of Preliminary Review:

1. Determination of whether a generation system qualifies and may be certified as a Qualifying Facility (QF).

2. Eligibility for Non-Parallel Operation if non-QF.

3. Approval or rejection of the interconnection Application.

    a. Rejection – MEMBER shall supply the technical reasons, along with supporting information, for rejection of the interconnection Application.

    b. Approval – An approved Application is valid for 6 months from the date of the approval. The MEMBER Contact Coordinator may extend this deadline if requested by the Customer.

    c. If generation interconnection request is rejected, MEMBER will provide possible solutions or changes to the Applicant which would meet MEMBER requirements.

    d. If additional specialized engineering studies are required for the proposed interconnection, the following information, as outlined below **"Determination of Components of Specialized Engineering Studies",** will be provided to the customer. Typical Engineering Studies are outlined in Appendix D. The MEMBER may have a consulting engineer assist with this determination and with any required studies.

    The costs to the Applicant for these studies shall not exceed the values shown in the following table for pre-certified equipment.

Generation System Size	Estimate of Engineering Study Costs
40 kW – 100 kW	$500
100 kW – 250 kW	$1000
>250 kW or not pre-certified equipment	Actual costs

Determination of the Components of Specialized Engineering Studies shall be based on:

1. General scope of the engineering studies required.

2. Estimated cost of the engineering studies.

3. Estimated duration of the engineering studies.

4. Additional information required to allow the completion of the engineering studies.

5. Study authorization agreement, to be made available at a later date.

6. Comments on the schedule provided.

If the rules of MISO or other transmission provider require that this interconnection request be processed under their rules and authority, the Coordinator will notify the Customer that the generation system will require further review and advise Customer on the potential costs of the process.

Step 3 Go/No-Go Decision for Engineering Studies by Applicant

In step 3, the Customer will decide whether or not to proceed with the required Engineering Studies for the proposed interconnection. If no specialized engineering studies are required by MEMBER, MEMBER and the Applicant are not required to complete this step.

If the Customer decides NOT to proceed with the engineering studies, the Customer shall notify the MEMBER, and the MEMBER is responsible for notifying MRES, so that other generation interconnection requests in the queue are not adversely impacted.

Should the Customer decide to proceed, the Customer shall provide the following to the MEMBER Contact:

1. Payment required by MEMBER for the specialized engineering studies.

2. Additional information requested by Member to allow completion of the engineering studies.

Step 4 Engineering Studies by MEMBER

Receipt of written notice to proceed by Customer, payment of applicable fee, and receipt of all engineering study information requested by MEMBER/MRES in Step 2 shall initiate the engineering studies.

MEMBER will be completing the specialized engineering studies for the proposed generation interconnection, as outlined in Step 2. These studies should be completed in the time frame provided in Step 2. While it is expected that MEMBER and its consultants shall make all reasonable efforts to complete the Engineering Studies within the time frames shown below, if additional time is required to complete the engineering studies, the MEMBER Contact shall notify the Customer and shall provide the reasons for the time extension.

Generation System Size	Engineering Study Completion
40 kW – 250 kW	40 working days
250 kW – 1 MW	60 working days
> 1 MW	90 working days

If it is known by MEMBER that the actual costs for the engineering studies will exceed the estimated amount by more the 25%, then the Customer shall be notified. MEMBER will then provide the reason(s) the studies will exceed the original estimated amount and will provide an updated estimate of the total cost for the engineering studies. The Customer shall be given the option of either withdrawing the application or paying the additional estimated amount.

Step 5 Study Results and Construction Estimates by MEMBER

Upon completion of the specialized engineering studies, or if necessary, the following information will be provided to the Applicant:

1. Results of the engineering studies, if needed;
2. Monitoring & control requirements for the proposed generation;
3. Special protection requirements for the generation system interconnection;
4. Comments on the schedule proposed by the Customer;
5. Draft Interconnection Agreement; and
6. Cost estimate and payment schedule for required MEMBER work, including, but not limited to;
    a. Labor costs related to the final design review;
    b. Labor & expense costs for attending meetings;
    c. Required equipment installed due to the interconnection of the generation system ("Dedicated Facilities") and other MEMBER modification(s);
    d. Final acceptance testing costs.

Step 6 Final Go-No Go Decision by Applicant

At this point, the Customer shall again have the opportunity to indicate whether or not they want to proceed with the proposed generation interconnection. If the decision is to NOT proceed, the Applicant will notify the MEMBER Contact and the MEMBER Contact will inform MRES, so that other generation interconnections in the queue are not

adversely impacted.

Should the Customer decide to proceed, a more detailed design, if not already completed by the Customer, must be done and the following information must be supplied to the MEMBER Contact who in turn will provide a copy to MRES and MEMBER's engineering personnel.

1. Applicable up-front payment may be required by MEMBER, per Payment Schedule, provided in Step 5 (if applicable).

2. Signed Interconnection Agreement (if applicable).

3. Final proposed schedule, incorporating MEMBER comments. The schedule of the project should include such milestones as: foundations pouring, equipment delivery dates, all conduit installation completed, cutover (energizing of the new switchgear/transfer switch), MEMBER work, relays set and tested, preliminary vendor testing, final MEMBER acceptance testing, and any other major milestones as determined by MEMBER.
4. Detailed one-line diagram of the generation system, including the generator, transfer switch/switchgear, service entrance, lockable and visible disconnect, metering, protection and metering current transformers (CTs)/voltage transformers (VTs), protective relaying, and generator control system.

5. Detailed information on the proposed equipment including wiring diagrams, models, and types.

6. Proposed relay settings for all interconnection required relays.

7. Detailed site plan of the generation system.

8. Drawing(s) showing the monitoring system (as required per table 5A and Section 5 of the Distributed Generation Interconnection Requirements,") including a drawing which shows the interface terminal block with the (MEMBER) monitoring system, if applicable.

9. Proposed testing schedule and initial procedure, including;

    a. Time of day (after-hours testing required?).

    b. Days required.

    c. Testing steps proposed.

Step 7 Final Design Review by MEMBER

Within fifteen (15) business days of receipt of the information required in Step 6, the MEMBER Contact will provide the Customer with an estimated time table for final

review. If the information required in Step 6 is not complete, the Customer will be notified, within ten (10) business days of the information that is needed. No further review may be done until the required information is submitted. The fifteen (15) business day clock will restart with the new submittal. This final design review shall take no longer than fifteen (15) additional business days to complete

During this step, MEMBER shall complete the review of the final generation system design. If the final design has significant changes from the generation system proposed on the original Customer application, which either invalidate the engineering studies or the preliminary engineering screening, then the Interconnection Application request may be rejected by MEMBER and the Customer may be requested to reapply with the revised design.

Upon completion of this step, the MEMBER Contact shall supply the following information to the Customer.

1. Requested modifications or corrections of the detailed drawings provided by the Customer.

2. Approval of an agreement with the Project Schedule. (This may need to be discussed separately and agreed upon between the Parties during this Step)

3. Initial testing procedure review comments. (Additional work on the testing process will occur during Step 8 once the actual equipment is identified)

Step 8 Order Equipment and Construction (by Both Parties)

This step will usually involve much interaction between the Parties. Approval drawings will be supplied by the Customer to MEMBER for review and comments. MEMBER and MEMBER engineering personnel will require review and approval of the drawings that cover the interconnection equipment and interconnection protection system. If MEMBER also requires remote control and/or monitoring, those drawings are also to be submitted for review and comment.

These items shall be completed in Step 8.

By the Customer:

1. Submit approval drawings for interconnection equipment and protection systems as required by Member.

2. Provide final relay settings to the MEMBER.

3. Submit completed and signed Engineering Data Submittal form.

4. Submit proof of insurance as required by MEMBER agreements or

interconnection agreements.

5. Submit required electrical inspection forms.

6. Inspecting and functional testing generation system components.

7. Work with MEMBER personnel and equipment vendor(s) to finalize the installation testing procedure.

By MEMBER personnel:

1. Ordering any necessary MEMBER equipment.

2. Installing and testing any required equipment.

    a. Monitoring facilities.
    b. Dedicated Equipment.

3. Assisting Customer with interconnection installation coordination issues.

4. Providing review and input for testing procedures.

5. Providing a copy of the interconnection drawings after installation.

Step 9 Final Tests by Both MEMBER and Customer

Due to equipment lead times and construction, a significant amount of time may pass between the execution of Step 8 and Step 9. During this interval, the final test steps should be developed and the construction of the facilities should be completed.

Final acceptance testing will commence when all equipment has been installed, all contractor preliminary testing has been completed, and all MEMBER preliminary testing of the monitoring and dedicated equipment is finished. One to three weeks prior to the start of the acceptance testing of the generation interconnection, the Applicant shall provide a report stating:

1. The Generation System meets all interconnection requirements.

2. All contractor preliminary testing has been completed.

3. The protective systems are functionally tested and ready.
4. The proposed date that the Generation System will be ready to be energized and acceptance tested.

For non-type certified systems, a Professional Electrical Engineer registered in the pertinent state is required to provide this formal report.

For smaller systems, scheduling of this testing may be more flexible as less testing time is required than for larger systems.

The MEMBER will determine the acceptance tests needed at this time.

For problems created by MEMBER or any MEMBER equipment that arise during testing, MEMBER will fix the problem as soon as reasonably possible. If problems arise during testing which are caused by the Applicant or Applicant's vendor or any vendor which supplied or installed equipment, MEMBER will leave the project until the problem is resolved. Testing will resume at a time chosen by MEMBER based on its personnel availability.

Step 10 By MEMBER

After MEMBER acceptance testing has been completed and after all requirements are met, MEMBER shall provide written approval for normal operation of the Generation System interconnection within three (3) business days of successful completion of the acceptance tests.

Step 11 By Applicant

Within two (2) months of interconnection, the Applicant shall provide MEMBER as it appeared when approved for normal operation by MEMBER. The drawings shall include all changes which were made during construction and the testing process.

Attachments:

The attached appendices contain additional information and requirements that Applicant may need to complete during the interconnection process. They are:

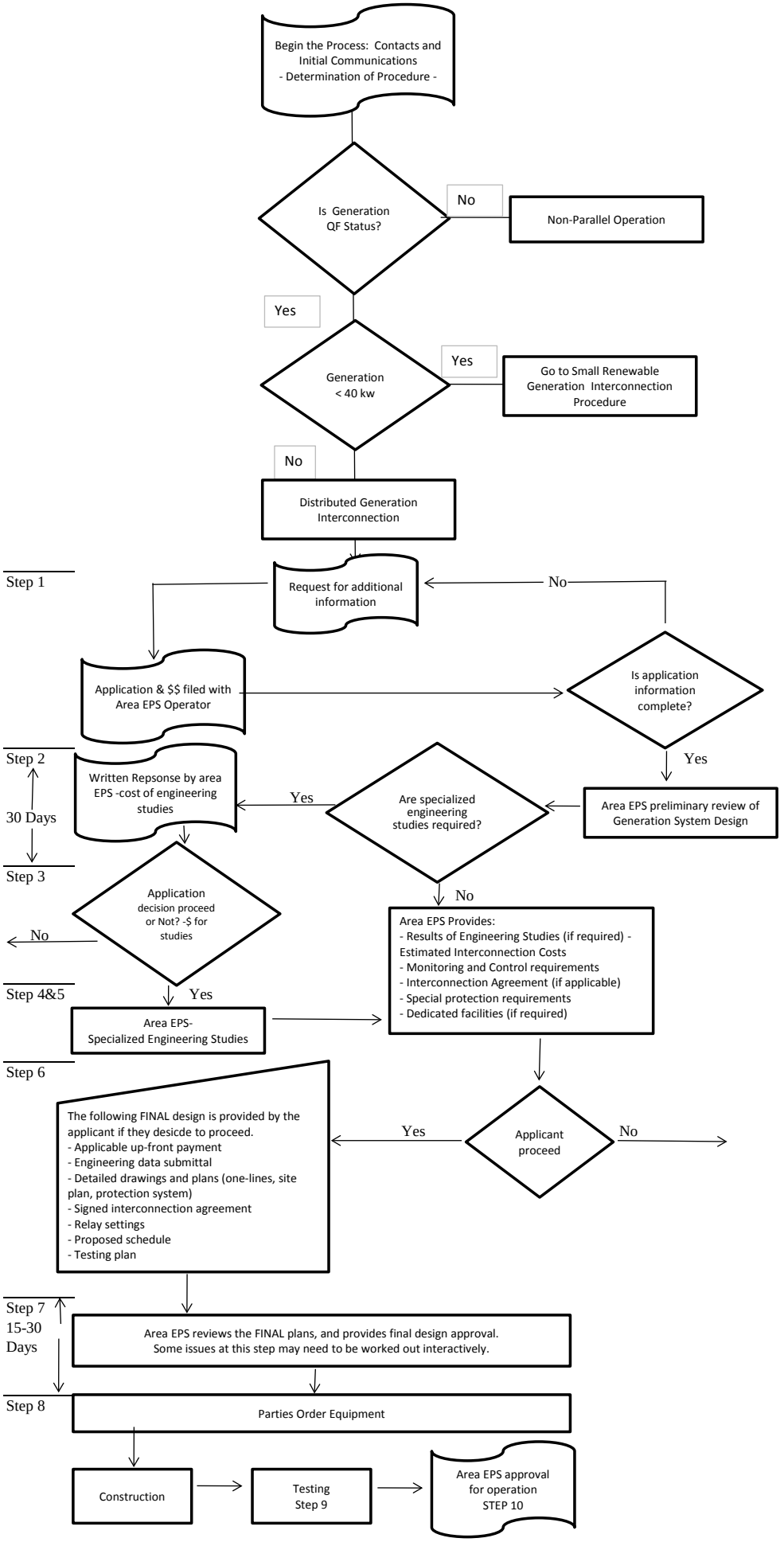
Appendix A: Interconnection Process flow chart.

Appendix B: Generation Interconnection Application form.

Appendix C: Engineering Data Submittal form.

Appendix D: Engineering Studies: Brief description of the types of possible Engineering Studies that may be required for the review of the Generation System interconnection.

Appendix A: Distributed Generation Procedure Flowchart



Appendix B
MEMBER Distributed Generation Interconnection Application

WHO SHOULD FILE THIS APPLICATION: Anyone expressing interest to install generation which will interconnect with the MEMBER distribution system. This application should be completed and returned to MEMBER Generation Interconnection Coordinator in order to begin processing the request.

INFORMATION: This application is used by the City of Pella to perform a preliminary Interconnection review. The Applicant shall provide as much of the requested information as possible. The fields in BOLD are required to be completed to the best of the Applicant's ability. The Applicant will be contacted if additional information is required. The response may take up to fifteen (15) business days after receipt of the required information and application fee.

APPLICATION FEE: An application fee must be paid with the filing of the Generation Interconnection Application. The amount of the fee is based on the size of the proposed Generation System and is set out in the "Process for Interconnection", Step 1.

OWNER/APPLICANT		
Company / Applicant's Name:		
Representative:	**Phone Number:**	**FAX Number:**
Title:		
Mailing Address:		
Email Address:		
LOCATION OF GENERATION SYSTEM INTERCONNECTION		
Street Address, legal description or GPS coordinates:		
PROJECT DESIGN / ENGINEERING (if applicable)		
Company:		
Representative:	**Phone:**	**FAX Number:**
Mailing Address:		
Email Address:		
ELECTRICAL CONTRACTOR (if applicable)		
Company:		
Representative:	**Phone:**	**FAX Number:**
Mailing Address:		
Email Address:		
GENERATOR		
Manufacturer:		**Model:**
Type (Synchronous Induction, Inverter, etc):		**Phases: 1 or 3**
Rated Output (Prime kW):	**(Standby kW):**	**Frequency:**
Rated Power Factor (%):	**Rated Voltage (Volts):**	**Rated Current (Amperes):**
Energy Source (gas, steam, hydro, wind, etc.)		
TYPE OF INTERCONNECTED OPERATION		
Interconnection / Transfer method: ☐ **Open** ☐ **Quick Open** ☐ **Closed** ☐ **Soft Loading** ☐ **Inverter**		
Proposed use of generation: (Check all that may apply) ☐ **Peak Reduction** ☐ **Standby** ☐ **Energy Sales** ☐ **Cover Load**	**Duration Parallel:** ☐ **None** ☐ **Limited** ☐ **Continuous**	
Pre-Certified System: Yes / No (Circle one)	**Exporting Energy Yes / No (Circle one)**	

MEMBER Distributed Generation Interconnection Application

ESTIMATED LOAD INFORMATION

The following information will be used to help properly design the interconnection. This Information is not intended as a commitment or contract for billing purposes.

Minimum anticipated load (generation not operating):	**kW:**	**kVA:**
Maximum anticipated load (generation not operating):	**kW:**	**kVA:**

ESTIMATED START/COMPLETION DATES

Construction start date:	**Completion (operational) date:**

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Attach a single line diagram showing the switchgear, transformers, and generation facilities. Give a general description of the manner of operation of the generation (cogeneration, closed-transition peak shaving, open-transition peak shaving, emergency power, etc.). Also, state whether the Applicant intends to sell power and energy or ancillary services and/or wheel power over MEMBER facilities. If there is intent to sell power and energy, also define the target market.

SIGN OFF AREA:

With this Application, the Applicant is requesting MEMBER to review the proposed Generation System Interconnection. We request that MEMBER identify the additional equipment and costs involved with the interconnection of this system and provide a budgetary estimate of those costs. We understand that the costs supplied by MEMBER will be estimates based on the information provided. We also agree that we will supply, as requested, additional information to allow MEMBER to better review this proposed Generation System interconnection. We have read the "MEMBER Distributed Generation Interconnection Requirements and Procedure" and will design the Generation System and interconnection to meet those requirements.

Applicant Name (print):	**Title:**
Applicant Signature:	**Date:**

SEND THIS COMPLETED & SIGNED APPLICATION AND ATTACHMENTS TO THE MEMBER COORDINATOR

Appendix C
Engineering Data Submittal & Agreement
for Distributed Generation Interconnection

WHO SHOULD FILE THIS SUBMITTAL: Anyone in the final stages of interconnecting a Generation System with the Area EPS. This submittal shall be completed and provided to the Area EPS Generation Interconnection Coordinator during the design of the Generation System, as established in the "MEMBER Interconnection Process for Distributed Generation Systems."

INFORMATION: This submittal is used to document the interconnected Generation System. The Applicant shall complete those parts of the form that are applicable. The Applicant will be contacted if additional information is required.

OWNER / APPLICANT		
Company / Applicant:		
Representative:	Phone Number:	FAX Number:
Title:		
Mailing Address:		
Email Address:		

PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION
Street Address, Legal Description or GPS coordinates:

PROJECT DESIGN / ENGINEERING (if applicable)		
Company:		
Representative:	Phone:	FAX Number:
Mailing Address:		
Email Address:		

ELECTRICAL CONTRACTOR (if applicable)		
Company:		
Representative:	Phone:	FAX Number:
Mailing Address:		
Email Address:		

TYPE OF INTERCONNECTED OPERATION	
Interconnection / Transfer method: □ Open □ Quick Open □ Closed □ Soft Loading □ Inverter	
Proposed use of generation: (Check all that may apply) □ Peak Reduction □ Standby □ Energy Sales □ Cover Load	Duration Parallel: □ None □ Limited □ Continuous
Certified System:	Exporting Energy:

Engineering Data Submittal & Agreement
for the Interconnection of Distributed Generation

GENERATION SYSTEM OPERATION / MAINTENANCE CONTACT INFORMATION		
Maintenance Provider:	Phone #:	Pager #:
Operator Name:	Phone #:	Pager #:
Person to Contact before remote starting of units		
Contact Name:	Phone #:	Pager #:
	24hr Phone #:	

GENERATION SYSTEM OPERATING INFORMATION	
Fuel Capacity (gals):	Full Fuel Run-time (hrs):
Engine Cool Down Duration (Minutes):	Start time Delay on Load Shed signal:
Start Time Delay on Outage (Seconds):	

ESTIMATED LOAD		
The following information will be used to help properly design the interconnection. This Information is not intended as a commitment or contract for billing purposes.		
Minimum anticipated load (generation not operating):	kW:	kVA:
Maximum anticipated load (generation not operating):	kW:	kVA:

REQUESTED CONSTRUCTION START/COMPLETION DATES	
Design Completion:	
Construction Start Date:	
Footings in place:	
Primary Wiring Completion:	
Control Wiring Completion:	
Start Acceptance Testing:	
Generation operational (In-service):	

(Complete all applicable items, Copy this page as required for additional generators)

SYNCHRONOUS GENERATOR			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:	Type:	Phases: 1 or 3	
Serial Number (each)	Date of manufacture:	Speed (RPM):	Freq. (Hz);
Rated Output (each unit) kW Standby:	kW Prime:	kVA:	
Rated Power Factor (%):	Rated Voltage(Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance (X_d):	% on	kVA base	
Transient Reactance (X'_d):	% on	kVA base	
Subtransient Reactance (X''_d):	% on	kVA base	
Negative Sequence Reactance (X_s):	% on	kVA base	
Zero Sequence Reactance (X_o):	% on	kVA base	
Neutral Grounding Resistor (if applicable):			
I^2t or K (heating time constant):			
Exciter data:			
Governor data: Additional Information:			

Engineering Data Submittal & Agreement
for the Interconnection of Distributed Generation

INDUCTION GENERATOR (if applicable)			
Rotor Resistance (R_r):	Ohms	Stator Resistance (R_s):	Ohms
Rotor Reactance (X_r):	Ohms	Stator Reactance (X_s):	Ohms
Magnetizing Reactance (X_m):	Ohms	Short Circuit Reactance (X_d''):	Ohms
Design Letter:		Frame Size:	
Exciting Current:		Temp Rise (deg C°):	
Rated Output (kW):			
Reactive Power Required:		k Vars (no Load)	kVars (full load)
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to the rotor circuit and describe the circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.			
Additional Information:			

PRIME MOVER			
Unit Number:	Type:		
Manufacturer:			
Serial Number:		Date of Manufacture:	
H.P. Rated:	H.P. Max:	Inertia Constant:	lb.-ft.^{2}
Energy Source (hydro, steam, wind, solar etc.):			

INTERCONNECTION (STEP-UP) TRANSFORMER		
Manufacturer:	kVA:	
Date of Manufacture:	Serial Number:	
High Voltage:	Connection:	Neutral solidly grounded?
Low Voltage:	Connection:	Neutral solidly grounded?
Transformer Impedance (Z):	% on	kVA base
Transformer Resistance (R):	% on	To be determined kVA base
Transformer Reactance (X):	% on	To be determined kVA base
Neutral Grounding Resistor (if applicable)		

TRANSFER SWITCH (If applicable)	
Model Number:	Type:
Manufacturer:	Rating(amps):

Appendix D
Engineering Studies
for Distributed Generation Interconnection

There are two main concerns to be addressed in the engineering studies: (1) Does the distributed generator cause a problem, and (2) What would it cost to make a change to resolve the problem? The first concern is relatively easy for the MEMBER Engineer to determine. The second question has multiple alternatives and can become a complex iterative process. In most cases, there is no "cookie cutter" solution to be applied.

For some larger generation installations and/or complex interconnections, the MEMBER Operator may suggest dividing up the engineering studies into two parts: (1) identify the scope of the problems and (2) attempt to identify solutions to resolve the problems. By splitting the engineering studies into two parts, it will identify the problems and potential problems to the Applicant and will provide the Applicant the ability to remove the request for interconnection if the problems are too large and/or expensive to resolve.

This appendix provides an overview of some of the main issues that are analyzed during the engineering study process. Every interconnection has its own unique issues (i.e. relative strength of the distribution system, ratio of the generation size to the existing area loads, etc). Therefore, many of generation interconnections will require further review and additional analysis.

- Short circuit analysis – the system is studied to make sure that the addition of the generation will not overstress any of the MEMBER equipment and that the equipment will still be able to clear during a fault. It is expected that the Applicant will complete their own short circuit analysis on their equipment to ensure that the addition of the generation system does not overstress the Applicant's electrical equipment.

- Power Flow and Voltage Drop
  - Can the equipment meet existing low voltage ride through standards?
  - Reviews potential islanding of the generation
  - Whether MEMBER Equipment could be overloaded
    - Under normal operation?
    - Under contingent operation?
    - With backfeeds?

- Flicker Analysis –
  - Will the operation of the generation cause voltage swings?
    - When it loads up? When it off loads?
  - How will the generation interact with MEMBER voltage regulation?
  - Will MEMBER capacitor switching affect the generation while on-line?

- Protection Coordination
  - Reclosing issues –the reclosing for the distribution system and transmission system is examined to see if the Generation System protection can be

implemented to ensure that it will clear from the distribution system before the feeder is reenergized.
  - Is voltage supervision of reclosing needed?
  - Is transfer-trip required?
  - Do we need to modify the existing protection systems? Existing settings?
  - At which points do we need "out of sync" protection?
  - Is the proposed interconnection protection system sufficient to sense a problem on the MEMBER distribution system?
  - Are there protection problems created by the step-up transformer?

- Grounding Reviews
  - Does the proposed grounding system for the Generation System meet the requirements of the NESC. The NESC is published by the IEEE.

- System Operation Impact
  - Are special operating procedures needed with the addition of the generation?
  - Reclosing and out-of-sync operation of facilities.
  - What limitations need to be placed on the operation of the generation?
  - Operational Var requirements?

SECTION 10

DISTRIBUTED GENERATION INTERCONNECTION TECHNICAL REQUIREMENTS

TABLE OF CONTENTS

Foreword

Electric distribution system connected generation units span a wide range of sizes and electrical characteristics. Electrical distribution system design varies widely from that required to serve the rural customer to that needed to serve the large commercial customer. With so many variations possible, it becomes complex and difficult to create one interconnection standard that fits all generation interconnection situations.

In establishing a generation interconnection standard, there are three main issues that must be addressed: (1) Safety, (2) Economics, and (3) Reliability.

The first and most important issue is safety; the safety of the general public and of the employees working on the electrical systems. This standard establishes the technical requirements that must be met to ensure the safety of the general public and of the employees working with the MEMBER distribution system. Typically, designing the interconnection system for the safety of the general public will also provide protection for the interconnected equipment.

The second issue is economics; the interconnection design must be affordable to build. The interconnection standard must be developed so that only those items that are necessary to meet safety and reliability are included in the requirements. This standard sets the benchmark for the minimum required equipment; if it is not needed, it will not be required.

The third issue is reliability; the generation system must be designed and interconnected such that the reliability and the service quality for all customers of the electrical power systems are not compromised. This applies to all electrical systems, not just the MEMBER distribution system.

Many generation interconnection standards exist or are in draft form. IEEE and FERC, along with many states, have been working on generation interconnection standards. There are other standards, such as NEC, that establish requirements for electrical installations. The NEC requirements are in addition to this standard. This standard is designed to document the requirements where the NEC has left the establishment of the standard to "the authority having jurisdiction" or to cover issues which are not covered in other national standards.

This standard covers installations with an aggregated capacity of greater than 40 kW. Many of the requirements in this document do not apply to small, 40 kW or less, generation installations. As an aid to the small, distributed generation customer, these small unit interconnection requirements have been extracted from this full standard and are available as a separate, simplified document as Section 7 of the Distributed Generation Workbook titled: "Small Renewable Generation Interconnection Procedure for Inverter Connected Systems Rated less than 40 kW", and Section 8 of the Distribution Generation Workbook titled: "Small Renewable Generation Interconnection Requirements for Inverter Connected Systems Rated Less Than 40 kW".

Introduction

This standard has been developed to document the technical requirements for the interconnection between a Generation System and an area electrical power system "Utility System or Area EPS." This standard covers 3-phase Generation Systems with an aggregate capacity of 40 kW or greater at the Point of Common Coupling. This standard covers Generation Systems that are interconnected with MEMBER's distribution facilities. This standard does not cover Generation Systems that are directly interconnected with the Transmission System. Contact the area transmission provider for their Transmission System interconnection standards.

While this standard provides the technical requirements for interconnecting a Generation System with a typical radial distribution system, it is important to note that there are some unique Area EPS, which have special interconnection needs. One example of a unique Area EPS would be one operated as a "networked" system. This standard does not cover the additional special requirements of those systems. The Interconnection Customer must contact the Owner/operator of the Area EPS with which the interconnection is intended, to make sure that the Generation System is not proposed to be interconnected with a unique Area EPS. If the planned interconnection is with a unique Area EPS, the Interconnection Customer must obtain the additional requirements for interconnecting with the distribution system.

MEMBER has the right to require the Generator System to make the necessary upgrades to the MEMBER distribution system and potentially to the transmission system to mitigate any potential safety and reliability issues created by the interconnection of the Generator.

This standard only covers the technical requirements and does not cover the interconnection process from the planning of a project through approval and construction. Please read the companion document "Distributed Generation Interconnection Procedure" for the description of the procedure to follow and a generic version of the forms to submit. The earlier the Interconnection Customer gets the MEMBER Generation Interconnection Coordinator involved in the planning and design of the Generation System Interconnection, the smoother the process will go.

A. Definitions

The definitions defined in the "IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems" (IEEE 1547) apply to this document as well. The following definitions are in addition to the ones defined in IEEE 1547, or are repeated from the IEEE 1547 standard.

1. Area EPS: An electric power system (EPS) that serves Local EPSs. Note: Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc. (MEMBER is an Area EPS).

2. Generation: Any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.

3. Generation System: The Interconnected Distributed Generation(s) controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables up to the Point of Common Coupling.

4. Interconnection Customer: The party or parties who are responsible for meeting the requirements of this standard. This could be the Generation System applicant, installer, designer, owner, or operator.

5. Local EPS: An EPS contained entirely within a single premises or group of premises.

6. Point of Common Coupling: The point where the Local EPS is connected to an Area EPS.

7. Transmission System: Those facilities as defined by using the guidelines established by the Iowa Utilities Board.

8. Type-Certified: Generation paralleling equipment that is listed by an OSHA-listed national testing laboratory as having met the applicable type testing requirement of UL 1741. At the time this document was prepared this was the only national standard available for certification of generation transfer switch equipment. This definition does not preclude other forms of type-certification if agreeable to the (MEMBER).

B. Interconnection Requirements

This standard defines the minimum technical requirements for the implementation of the electrical interconnection between the Generation System and the MEMBER distribution system. It does not define the overall requirements for the Generation System. The requirements in this standard are intended to achieve the following:

1. Ensure the safety of utility personnel and contractors working on the electrical power system.

2. Ensure the safety of utility customers and the general public.

3. Protect and minimize the possible damage to the electrical power system and other customer's property.

4. Ensure proper operation to minimize adverse operating conditions on the electrical power system.

C. Protection

The Generation System and Point of Common Coupling shall be designed with proper protective devices to promptly and automatically disconnect the Generation from the MEMBER distribution system in the event of a fault or other system abnormality. The type of protection required will be determined by:

1. Size and type of the generating equipment.

2. The method of connecting and disconnecting the Generation System from the electrical power system.

3. The location of generating equipment on the MEMBER distribution system.

D. Area EPS Modifications

Depending upon the match between the Generation System, the MEMBER distribution system, and how the Generation System is operated, certain modifications and/or additions may be required to the existing MEMBER distribution system, with the addition of the Generation System. To the extent possible, this standard describes the modifications which could be necessary to the MEMBER distribution system for different types of Generation Systems. For some unique interconnections, additional and/or different protective devices, system modifications, and/or additions will be required by the MEMBER operator. In these cases the MEMBER will provide the final determination of the required modifications and/or additions. If any special requirements are necessary they will be identified by the MEMBER during the application review process.

E. Generation System Protection

The Interconnection Customer is solely responsible for providing protection for the Generation System. Protection systems required in this standard are structured to protect the MEMBER distribution system and the public. The Generation System protection is not provided for in this standard. Additional protection equipment may be required to ensure proper operation for the Generation System. This is especially true while operating disconnected from the MEMBER distribution system. The MEMBER distribution system does not assume responsibility for protection of the Generation System equipment or of any portion of the Local EPS.

F. Electrical Code Compliance

The Interconnection Customer shall be responsible for complying with all applicable local, independent, state, and federal codes such as building codes, NEC, NESC, and noise and emissions standards. As required by Iowa State law, the MEMBER distribution system will require proof of complying with the NEC before the interconnection is made, through installation approval by an electrical inspector recognized by the Iowa Utilities Board.

The Interconnection Customer's Generation System and installation shall comply with latest revisions of the ANSI/IEEE standards applicable to the installation, especially IEEE 1547 "Standard for Interconnecting Distributed Resources with Electric Power Systems." See the reference section in this document for a partial list of the standards which apply to the generation installations covered by this standard.

References

The following standards shall be used in conjunction with this standard. When the stated version of the following standards is superseded by an approved revision, then that revision shall apply.

IEEE Std 100-2000, "IEEE Standard Dictionary of Electrical and Electronic Terms"

IEEE Std 519-1992, "IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems"

IEEE Std 929-2000, "IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems"

IEEE Std 1547, "IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems"

IEEE Std C37.90.1-1989 (1995), "IEEE Standard Surge Withstand Capability (SEC) Tests for Protective Relays and Relay Systems"

IEEE Std C37.90.2 (1995), "IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers"

IEEE Std C62.41.2-2002, "IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits"

IEEE Std C62.45-1992 (2002), "IEEE Recommended Practice on Surge Testing for Equipment Connected to Low Voltage (1000V and less) AC Power Circuits"

ANSI C84.1-1995, "Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)"

ANSI/IEEE 446-1995, "Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications"

ANSI/IEEE Standard 142-1991, "IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems – Green Book"

UL Std. 1741 "Inverters, Converters, and Controllers for use in Independent Power Systems"

NEC – "National Electrical Code", National Fire Protection Association (NFPA), NFPA-70-2002

NESC – "National Electrical Safety Code" ANSI C2-2000, Published by the Institute of Electrical and Electronics Engineers, Inc.

Types of Interconnections

A. The manner in which the Generation System is connected to and disconnected from the MEMBER distribution system can vary. This section focuses only one of several methods of transferring the load from the Area EPS to the Generation System: Extended Parallel Operation.

With Extended Parallel Operation, the Generation System is paralleled with the MEMBER distribution system in continuous operation. Special design, coordination, and agreements are required before any extended parallel operation will be permitted. The MEMBER distribution system interconnection study will identify the issues involved.

1. Any anticipated use in the extended parallel mode requires special agreements and special protection coordination.

2. Protective Relaying is required as described in section 6.

3. Figure 14 at the end of this document provides a typical one-line diagram for this type of interconnection. It must be emphasized that this is a typical installation only and final installations may vary from the examples shown due to transformer connections, breaker configuration, etc.

Interconnection Issues and Technical Requirements

A. General Requirements – The following requirements apply to all interconnected generating equipment. The MEMBER distribution system shall be considered the source side and the customer's system shall be considered the load side in the following interconnection requirements.

1. Visible Disconnect – A disconnecting device shall be installed to electrically isolate the MEMBER distribution system from the Generation System. The only exception for the installation of a visible disconnect is if the generation is interconnected via a mechanically interlocked open transfer switch and installed per the NEC (702.6) "so as to prevent the inadvertent interconnection of normal and alternate sources of supply in any operation of the transfer equipment."

   The visible disconnect shall provide a visible air gap between Interconnection Customer's Generation and the MEMBER distribution system in order to establish the safety isolation required for work on the MEMBER distribution system. This disconnecting device shall be readily accessible 24 hours per day by MEMBER field personnel and shall be capable of being padlocked by MEMBER field personnel. The disconnecting device shall be lockable in the open position.

   The visible disconnect shall be a UL approved or NEMA approved, manual safety disconnect switch of adequate ampere capacity. The visible disconnect shall not open the neutral when the switch is open. A draw-out type circuit breaker can be used as a

visual open.

The visible disconnect shall be labeled, as required by the MEMBER, to inform the MEMBER field personnel.

2. Energization of Equipment by Generation System – The Generation System shall not energize any de-energized portion of the MEMBER distribution system. The Interconnection Customer shall install the necessary padlocking (lockable) devices on equipment to prevent the energization of a de-energized electrical power system. Lock out relays shall automatically block the closing of breakers or transfer switches on to a de-energized Area EPS. The only exception to this rule is for controlled "islanding" of select portions of the MEMBER distribution system that are reenergized by "campus" style Generation Systems. These Generation Systems shall utilize MEMBER approved interconnection equipment and be designed and approved for this "islanding" operation. Special design and operating procedures are required to allow for this method of operation.

3. Power Factor – The power factor of the Generation System and connected load shall be as follows;

    a. Extended Parallel Generation Systems shall be designed to be capable of operating between 90% lagging and 95% leading. These Generation Systems shall normally operate near unity power factor (+/-98%) or as mutually agreed between the MEMBER and the Interconnection Customer.

4. Low Voltage Ride-Through (LVRT) Capability

    Depending on the characteristics of the distribution system to which the generation capacity is connected, and the relative size of the generation capacity, it may be necessary for the generation equipment to meet certain LVRT requirements, in order for the EPS to maintain stability. The need for equipment or provisions in order to maintain stability during system disturbances will be determined during the evaluation of the proposed interconnection.

5. Grounding Issues

    a. Grounding of sufficient size to handle the maximum available ground fault current shall be designed and installed to limit step and touch potentials to safe levels as set forth in "IEEE Guide for Safety in AC Substation Grounding," ANSI/IEEE Standard 80.

    b. It is the responsibility of the Interconnection Customer to provide the required grounding for the Generation System. A good standard for this is the IEEE Std. 142-1991 (or most current standard) "Grounding of Industrial and Commercial Power Systems."

c. All electrical equipment shall be grounded in accordance with local, state, and federal electrical and safety codes and applicable standards.

d. Sales to Area EPS or other parties – Transportation of energy on the Transmission System is regulated by the area reliability council and FERC. Those contractual requirements are not included in this standard. The MEMBER will point out these additional contractual requirements during the interconnection approval process.

B. For Inverter based, closed transfer, and soft loading interconnections – The following additional requirements apply:

1. Fault and Line Clearing – The Generation System shall be removed from the MEMBER distribution system for any faults or outages occurring on the electrical circuit serving the Generation System

2. Operating Limits - In order to minimize objectionable and adverse operating conditions of the electric service provided to other customers connected to the MEMBER distribution system, the Generation System shall meet the Voltage, Frequency, Harmonic and Flicker operating criteria as defined in the IEEE 1547 standard during periods when the Generation System is operated in parallel with the MEMBER distribution system.

   If the Generation System creates voltage changes greater than 4% on the MEMBER distribution system, it is the responsibility of the Interconnection Customer to correct these voltage sag/swell problems caused by the operation of the Generation System. Also, if the operation of the interconnected Generation System causes flicker, which causes problems for other customers interconnected to the MEMBER distribution system, the Interconnection Customer is responsible for correcting the problem.

3. Flicker – The operation of Generation System is not allowed to produce excessive flicker to adjacent customers. See the IEEE 1547 standard for a more complete discussion on this requirement.

   The stiffer the MEMBER distribution system, the larger a block load change that it will be able to handle. For any of the transfer systems, the MEMBER distribution system voltage shall not drop or rise greater than 4% when the load is added or removed from the MEMBER distribution system. It is important to note that if another interconnected customer complains about the voltage change caused by the Generation System, even if the voltage change is below the 4% level, it is the Interconnection Customer's responsibility to correct or pay for correcting the problem. Utility experience has shown that customers have seldom objected to instantaneous voltage changes of less than 2% on the MEMBER distribution system.

4. Interference – The Interconnection Customer shall disconnect the Distributed Generation from the MEMBER distribution system if the Distributed Generation causes radio, television, or electrical service interference to other customers, via the EPS or interference with the operation of Area EPS. The Interconnection Customer shall either effect repairs to the Generation System or reimburse the MEMBER for the cost of any required modifications to the MEMBER distribution system due to the interference.

5. Synchronization of Customer Generation

    a. An automatic synchronizer with synch-check relaying is required for unattended automatic quick open transition, closed transition, or soft loading transfer systems.

    b. To prevent unnecessary voltage fluctuations on the MEMBER distribution system, synchronizing equipment must be capable of closing the Distributed Generation into the MEMBER distribution system within the limits defined in IEEE 1547. Actual settings shall be determined by the Registered Professional Engineer establishing the protective settings for the installation.

    c. Unintended Islanding – Under certain conditions with extended parallel operation, it would be possible for a part of the MEMBER distribution system to be disconnected from the rest of the MEMBER distribution system and have the Generation System continue to operate and provide power to a portion of the isolated circuit; this condition is called "islanding." It is not possible to successfully reconnect the energized isolated circuit to the rest of the MEMBER distribution system since there are no synchronizing controls associated with all of the possible locations of disconnection. Therefore, it is a requirement that the Generation System be automatically disconnected from the MEMBER distribution system immediately by protective relays for any condition that would cause the MEMBER distribution system to be de-energized. The Generation System must either isolate with the customer's load or trip. The Generation System must also be blocked from closing back into the MEMBER distribution system until the MEMBER distribution system is reenergized and the MEMBER distribution system voltage is within Range B of ANSI C84.1 Table 1 for a minimum of 1 minute. Depending upon the size of the Generation System it may be necessary to install direct transfer trip equipment from the MEMBER distribution system source(s) to remotely trip the generation interconnection to prevent islanding for certain conditions

6. Disconnection – The MEMBER distribution system operator may refuse to connect or may disconnect a Generation System from the MEMBER distribution system under the following conditions:

    a. Lack of approved Standard Application Form and Standard Interconnection Agreement.

b. Non-Compliance with the technical or contractual requirements.

c. System Emergency or for imminent danger to the public or MEMBER personnel (Safety).

d. Routine maintenance, repairs and modifications to the MEMBER distribution system.

   The MEMBER shall coordinate planned outages with the Interconnection Customer to the extent possible.

Generation Metering, Monitoring, and Control

Metering, Monitoring and Control – Depending upon the method of interconnection and the size of the Generation System, there are different metering, monitoring, and control requirements Table 5A is a table summarizing the metering, monitoring, and control requirements.

Due to the variation in Generation Systems and the MEMBER's operational needs, the requirements for metering, monitoring, and control listed in this document are the expected maximum requirements that the MEMBER distribution system will apply to the Generation System. It is important to note that for some Generation System installations, the MEMBER distribution system may waive some of the requirements of this section if they are not needed. An example of this is with rural or low capacity feeders which require more monitoring than larger capacity, typically urban feeders.

Another factor which will effect the metering, monitoring, and control requirements will be the tariff under which the Interconnection Customer is supplied by the MEMBER distribution system. Table 5A has been written to cover most applications.

TABLE 5A Metering, Monitoring, and Control Requirements			
Generation System Capacity at Point of Common Coupling	**Metering**	**Generation Remote Monitoring**	**Generation Remote Control**
< 40 kW Inverter Connected System	See "Small Renewable Generation Interconnection Requirements for Inverter Connected Systems < 40 kW"	--	---
40 – 250 kW with limited parallel	Detented Area EPS Metering at the Point of Common Coupling	None Required	None Required
40 – 250 kW with extended parallel	Detented Area EPS Metering at the Point of Common Coupling	Interconnection Customer supplied direct dial phone line. Area EPS to supply its own monitoring equipment	None Required
250 – 1000 kW with limited parallel	Detented Area EPS Metering at the Point of Common Coupling	Interconnection Customer supplied direct dial phone line and monitoring points available. See B 1	None Required
250 – 1000 kW With extended parallel operation	Recording metering on the Generation System and a separate recording meter on the load	Required Area EPS (potential transmission provider) remote monitoring system. See B 1	None Required
>1000 kW With limited parallel Operation	Detented Area EPS Metering at the Point of Common Coupling	Required Area EPS remote (potential transmission provider) monitoring system. See B 1	None required
>1000 kW With extended parallel operation	Recording metering on the Generation System and a separate recording meter on the load.	Required Area EPS remote (potential transmission provider) monitoring system. See B 1	Direct Control via SCADA by Area EPS of interface breaker

"Detented" = A meter which is detented will record power flow in only one direction.

A. Metering

1. As shown in Table 5A, the requirements for metering will depend upon the type of generation and the type of interconnection. For most installations, the requirement is a single point of metering at the Point of Common Coupling. The MEMBER will install a special meter that is capable of measuring and recording energy flow in both directions, for three phase installations, or two detented meters wired in series for single phase installations. A dedicated-direct dial phone line may be required to be supplied to the meter for the MEMBER's use to read the metering. Some monitoring may be done through the meter and the dedicated-direct dial phone line, so in many installations the remote monitoring and the meter reading can be done using the same dial-up phone line.

2. Depending upon which tariff the Generation System and/or customer's load is being supplied under, additional metering requirements may result; contact the MEMBER for tariff requirements. In some cases, the direct dial-phone line requirement may be waived by the MEMBER for smaller Generation Systems.

3. All Area EPS revenue meters shall be supplied, owned, and maintained by the MEMBER. All voltage transformers (VT) and current transformers (CT) used for revenue metering shall be approved and/or supplied by the MEMBER. The MEMBER's standard practices for instrument transformer location and wiring shall be followed for the revenue metering.

   For Generation Systems that sell power and are greater than 40 kW in size, separate metering of the generation and of the load may be required. A single meter recording the power flow at the Point of Common Coupling for both the Generation and the load may not be allowed by the rules under which the area transmission system is operated. The MEMBER power supplier, Missouri River Energy Services, is required to report to the regional reliability council (MAPP) the total peak load requirements and is also required to own or have contracted for, accredited generation capacity of 115% of the experienced peak load level for each month of the year. Failure to meet this requirement results in a large monetary penalty for Missouri River Energy Services.

B. Monitoring (SCADA) is required as shown in table 5A. The need for monitoring is based on the need of the system control center to have the information necessary for the reliable operation of the MEMBER distribution system. This remote monitoring is especially important during periods of abnormal and emergency operation.

The difference in Table 5A between remote monitoring and SCADA is that SCADA typically is a system that is in continuous communication with a central computer and provides updated values and status to the MEMBER distribution system operator within several seconds of the changes in the field. Remote monitoring on the other hand will tend to provide updated values and status within minutes of the change in state of the field. Remote monitoring is typically less expensive to install and operate. The

transmission provider may also require remote monitoring of the Generation System. The transmission provider may require such monitoring and will be confirmed prior to operation. The cost of providing such monitoring is the cost of the Generator System.

1. Where Remote Monitoring or SCADA is required, as shown in Table 5A, the following monitored and control points are required:

    a. Real and reactive power flow for each Generation System (kW and kVAR). This is only required if separate metering of the Generation and the load is required, otherwise #4 monitored at the point of Common Coupling will meet the requirements.

    b. Phase voltage representative of the MEMBER distribution system's service to the facility.

    c. Status (open/close) of Distributed Generation and interconnection breaker(s) or, if transfer switch is used, status of transfer switch(s).

    d. Customer load from Area EPS service (kW and kVAR).

    e. Control of interconnection breaker, if required by the MEMBER distribution system operator.

    When telemetry is required, the Interconnection Customer must provide the communications medium to MEMBER's Control Center. This could be radio, dedicated phone circuit, or other form of communication. If a telephone circuit is used, the Interconnection Customer must also provide the telephone circuit protection. The Interconnection Customer shall coordinate the remote terminal unit (RTU) addition with the MEMBER. The MEMBER may require a specific RTU and/or protocol to match their SCADA or remote monitoring system.

Protective Devices and Systems

A. Protective devices required to permit safe and proper operation of the MEMBER distribution system, while interconnected with customer's Generation System, are shown in the figures at the end of this document. In general, an increased degree of protection is required for increased Distributed Generation size. This is due to the greater magnitude of short circuit currents and the potential impact to system stability from these installations. Medium and large installations require more sensitive and faster protection to minimize damage and ensure safety.

If a transfer system is installed, which has a user accessible selection of several transfer modes, the transfer mode which has the greatest protection requirements will establish the protection requirements for that transfer system.

The Interconnection Customer shall provide protective devices and systems to detect the

Voltage, Frequency, Harmonic, and Flicker levels as defined in the IEEE 1547 standard during periods when the Generation System is operated in parallel with the MEMBER distribution system. The Interconnection Customer shall be responsible for the purchase, installation, and maintenance of these devices. Discussion on the requirements for these protective devices and systems follows:

1. Relay settings

    a. If the Generation System is utilizing a Type-Certified system, such as a UL listed inverter, a Professional Electrical Engineer is not required to review and approve the design of the interconnecting system. If the Generation System interconnecting device is not Type-Certified or if the Type-Certified Generation System interconnecting device has additional design modifications made, the Generation System control, the protective system, and the interconnecting device(s) shall be reviewed and approved by a Professional Electrical Engineer, registered in the State of Iowa.

    b. A copy of the proposed protective relay settings shall be supplied to the MEMBER for review and approval to ensure proper coordination between the generation system and the MEMBER distribution system.

2. Relays

    a. All equipment providing relaying functions shall meet or exceed ANSI/IEEE Standards for protective relays, i.e., C37.90, C37.90.1 and C37.90.2.

    b. Required relays that are not "draw-out" cased relays shall have test plugs or test switches installed to permit field testing and maintenance of the relay without unwiring or disassembling the equipment. Inverter based protection is excluded from this requirement for Generation Systems <40 kW at the Point of Common Coupling.

    c. Three phase interconnections shall utilize three phase power relays, which monitor all three phases of voltage and current, unless so noted in the appendix one-line diagrams.

    d. All relays shall be equipped with setting limit ranges at least as wide as specified in IEEE 1547, and meet other requirements as specified in the MEMBER interconnect study. Setting limit ranges are not to be confused with the actual relay settings required for the proper operation of the installation. At a minimum, all protective systems shall meet the requirements established in IEEE 1547.

        i. Over-current relays (IEEE Device 50/51 or 50/51V) shall operate to trip the protecting breaker at a level to ensure protection of the equipment and at a speed to allow proper coordination with other protective devices. For example, the over-current relay monitoring the interconnection breaker shall

operate fast enough for a fault on the customer's equipment, so that no protective devices will operate on the MEMBER distribution system. A 51 V is a voltage restrained or controlled over-current relay and may be required to provide proper coordination with the MEMBER distribution system.

ii. Over-voltage relays (IEEE Device 59) shall operate to trip the Distributed Generation per the requirements of IEEE 1547.

iii. Under-voltage relays (IEEE Device 27) shall operate to trip the Distributed Generation per the requirements of IEEE 1547.

iv. Over-frequency relays (IEEE Device 81O) shall operate to trip the Distributed Generation off-line per the requirements of IEEE 1547.

v. Under-frequency relay (IEEE Device 81U) shall operate to trip the Distributed Generation off-line per the requirements of IEEE 1547. Coordination with the MEMBER distribution system is required for this setting.

The MEMBER distribution system will provide the reference frequency of 60 Hz. The Distributed Generation control system must be used to match this reference. The protective relaying in the interconnection system will be expected to maintain the frequency of the output of the Generation.

vi. Reverse power relays (IEEE Device 32) (power flowing from the Generation System to the MEMBER distribution system) shall operate to trip the Distributed Generation off-line for a power flow to the system with a maximum time delay as determined by the MEMBER's engineer.

vii. Lockout Relay (IEEE Device 86) is a mechanically locking device which is wired into the close circuit of a breaker or switch and, when tripped, will prevent any close signal from closing that device. This relay requires that a person manually reset the lockout relay before that device can be reclosed. These relays are used to ensure that a denergized system is not reenergized by automatic control action, and prevents a failed control from auto-reclosing an open breaker or switch.

viii. Transfer Trip – All Generation Systems are required to disconnect from the MEMBER distribution system when the MEMBER distribution system is disconnected from its source, to avoid unintentional islanding. With larger Generation Systems, which remain in parallel with the MEMBER distribution system, a transfer trip system may be required to sense the loss of the MEMBER distribution system source. When the MEMBER distribution system source is lost, a signal is sent to the Generation System to separate the Generation from the MEMBER distribution system. The size of the Generation System versus the capacity and minimum loading on the feeder will dictate the need for transfer trip installation. The MEMBER distribution

system interconnection study will identify the specific requirements.

If multiple MEMBER sources are available or multiple points of sectionalizing on the MEMBER distribution system exist, then more than one transfer trip system may be required. The MEMBER interconnection study will identify the specific requirements. For some installations the alternate MEMBER source(s) may not be utilized except in rare occasions. If this is the situation, the Interconnection Customer may elect to have the Generation System locked out when the alternate source(s) are utilized, if agreeable to the MEMBER.

ix. Parallel limit timing relay (IEEE Device 62PL) Settings, as determined by the MEMBER's engineer, shall trip the Distributed Generation circuit breaker on limited parallel interconnection systems. Power for the 62 PL relay must be independent of the transfer switch control power. The 62PL timing must be an independent device from the transfer control and shall not be part of the generation PLC or other control system.

TABLE 6A SUMMARY OF RELAYING REQUIREMENTS								
Type of Interconnection	**Over-current (50/51)**	**Voltage (27/59)**	**Frequency (81 0/U)**	**Directional Over Current (67)**	**Lockout (86)**		**Sync-Check (25)**	**Transfer Trip**
Extended Parallel < 250 kW (Fig. 4)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	-----	**Yes**	-----
Soft Loading Extended Parallel >250kW (Fig.4)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	-----	**Yes**	**Yes**

Agreements

A. Interconnection Agreement – An interconnection agreement is required for all Generation Systems that normally operate in parallel with the MEMBER distribution system. The specific terms of the interconnection agreement will vary depending upon the size and type of Generation System. This agreement will contain the terms and conditions upon which the Generation System will be to be connected, constructed, and maintained, when operated in parallel with the MEMBER distribution system. Some of the issues covered in the Interconnection Agreement are as follows:

1. Construction Process
2. Testing Requirements
3. Maintenance Requirements
4. Firm Operating Requirements such as Power Factor
5. Access requirements for the MEMBER distribution system personnel
6. Disconnection of the Generation System (Emergency and Non-emergency)
7. Term of Agreement
8. Insurance Requirements
9. Dispute Resolution Procedures

B. Operating Agreement – For Generation Systems that normally operate in parallel with the MEMBER distribution system, an agreement separate from the Interconnection Agreement, called the "Operating Agreement," is usually required. This agreement is created for the benefit of both the Interconnection Customer and the MEMBER and will be agreed to between the Parties. This agreement will be dynamic and is intended to be updated and reviewed annually. For some smaller systems, the operating agreement can simply be a letter agreement; for larger and more integrated Generation Systems the Operating Agreement will tend to be more involved and more formal. The Operating Agreement covers items that are necessary for the reliable operation of the Local and Area EPS. Some of the items typically included in the Operating Agreement are as follows:

1. Emergency and normal contact information for both the MEMBER operations center and for the Interconnection Customer.

2. Procedures for periodic Generation System test runs.

3. Procedures for maintenance on the MEMBER distribution system that affect the Generation System.

4. Emergency Generation Operation Procedures

C. Other Agreements – Depending on the nature and size of the Generation System, additional agreements may be required. Any such other agreements will be identified by the MEMBER and will be agreed upon by the parties.

Testing Requirements

A. Pre-Certification of Equipment

The most important part of the process to interconnect generation with Local and Area EPS is safety. One of the key components of ensuring the safety of the public and employees is to ensure that the design and implementation of the elements connected to the electrical power system operate as required. To meet this goal, all of the electrical wiring in a business or residence is required by the State of Iowa to be listed by a recognized testing and certification laboratory for its intended purpose. Typically, we see this as "UL" listed. Since Generation Systems tend to be uniquely designed for each installation, they have been designed and approved by Professional Engineers. As the number of Generation Systems installed increases, vendors are working toward creating equipment packages which can be tested in the factory and then will only require limited field testing. This will allow us to move toward "plug and play" installations. For this reason, this standard recognizes the efficiency of "pre-certification" of Generation System equipment packages that will help streamline the design and installation process.

An equipment package shall be considered certified for interconnected operation if it has been submitted by a manufacturer, tested and listed by a nationally recognized testing, and certification laboratory (NRTL) for continuous utility interactive operation in compliance with the applicable codes and standards. Presently generation paralleling equipment that is listed by a nationally recognized testing laboratory as having met the applicable type-testing requirements of UL 1741 and IEEE 929 shall be acceptable for interconnection without additional protection system requirements. An "equipment package" shall include all interface components including switchgear, inverters, or other interface devices and may include an integrated generator or electric source. If the equipment package has been tested and listed as an integrated package which includes a generator or other electric source, it shall not require further design review, testing, or additional equipment to meet the certification requirements for interconnection. If the equipment package includes only the interface components (switchgear, inverters, or other interface devices), then the Interconnection Customer shall show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and consistent with the testing and listing specified for the package. Provided the generator or electric source combined with the equipment package is consistent with the testing ad listing performed by the nationally recognized testing and certification laboratory, no further design review, testing, or additional equipment shall be required to meet the certification requirements of this interconnection procedure. A certified equipment package does not include equipment provided by the MEMBER.

The use of Pre-Certified equipment does not automatically qualify the Interconnection Customer to be interconnected to the MEMBER distribution system. An application will still need to be submitted and an interconnection review may still need to be performed to determine the compatibility of the Generation System with the MEMBER distribution system.

B. Pre-Commissioning Tests

1. Non-Certified Equipment

a. Protective Relaying and Equipment Related to Islanding

i. Distributed generation that is not Type-Certified (type tested), shall be equipped with protective hardware and/or software designed to prevent the Generation from being connected to a de-energized Area EPS.

ii. The Generation may not close into a de-energized Area EPS and protection is provided to prevent this from occurring. It is the Interconnection Customer's responsibility to provide a final design and to install the protective measures required by the MEMBER. The MEMBER will review and approve the design, the types of relays specified, and the installation. Mutually agreed upon exceptions may at times be necessary and desirable. It is strongly recommended that the Interconnection Customer obtain MEMBER written approval prior to ordering protective equipment for parallel operation. The Interconnection Customer will own these protective measures installed at their facility.

iii. The Interconnection Customer shall obtain prior approval from the MEMBER for any revisions to the specified relay calibrations.

C. Commissioning Testing

The following tests shall be completed by the Interconnection Customer. All of the required tests in each section shall be completed prior to moving on to the next section of tests. The MEMBER has the right to witness all field testing and to review all records prior to allowing the system to be made ready for normal operation. The MEMBER shall be notified, with sufficient lead time to allow the opportunity for MEMBER personnel to witness any or all of the testing.

1. Pre-testing -The following tests are required to be completed on the Generation System prior to energization by the Generator or the MEMBER distribution system. Some of these tests may be completed in the factory if no additional wiring or connections were made to that component. These tests are marked with a "*".

a. Grounding shall be verified to ensure that it complies with this standard, the NESC, and the NEC.

b. * CTs and VTs used for monitoring and protection, shall be tested to ensure correct polarity, ratio, and wiring.

c. CTs shall be visually inspected to ensure that all grounding and shorting connections have been removed where required.

d. Breaker/Switch tests – Verify that the breaker or switch cannot be operated with interlocks in place or that the breaker or switch cannot be automatically operated when in manual mode. Various Generation Systems have different interlocks, local or manual modes, etc. The intent of this section is to ensure that the breaker or switches controls are operating properly.

e. * Relay Tests – All Protective relays shall be calibrated and tested to ensure the correct operation of the protective element. Documentation of all relay calibration tests and settings shall be furnished to the MEMBER.

f. Trip Checks – Protective relaying shall be functionally tested to ensure the correct operation of the complete system. Functional testing requires that the complete system is operated by the injection of current and/or voltage to trigger the relay element and proving that the relay element trips the required breaker, lockout relay, or provides the correct signal to the next control element. Trip circuits shall be proven through the entire scheme (including breaker trip).

   For factory assembled systems, such as inverters, the setting of the protective elements may occur at the factory. This section requires that the complete system, including the wiring and the device being tripped or activated, is proven to be in working condition through the injection of current and/or voltage.

g. Remote Control, SCADA, and Remote Monitoring tests – All remote control functions and remote monitoring points shall be verified operational. In some cases, it may not be possible to verify all of the analog values prior to energization. Where appropriate, those points may be verified during the energization process

h. Phase Tests – The Interconnection Customer shall work with MEMBER personnel to complete the phase test to ensure proper phase rotation of the Generation and wiring.

i. Synchronizing test – The following tests shall be done across an open switch or racked out breaker. The switch or breaker shall be in a position that it is incapable of closing between the Generation System and the MEMBER distribution system for this test. This test shall demonstrate that, at the moment of the paralleling-device closure, the frequency, voltage and phase angle are within the required ranges, stated in IEEE 1547. This test shall also demonstrate that if any of the parameters are outside of the ranges stated, the paralleling-device shall not close. For inverter-based interconnected systems, this test may not be required unless the inverter creates fundamental voltages before the paralleling device is closed.

2. On-Line Commissioning Test – The following tests will proceed once the Generation System has completed pre-testing and the results have been reviewed and approved

by the MEMBER. For smaller Generation Systems, the MEMBER may have a set of standard interconnection tests that will be required. On larger and more complex Generation Systems, the Interconnection Customer and the MEMBER will get together to develop the required testing procedure. All on-line commissioning tests shall be based on written test procedures agreed to between the MEMBER and the Interconnection Customer.

Generation System functionally shall be verified for specific interconnections as follows:

a. Anti-Islanding Test – For Generation Systems that parallel with the utility for longer than 100 msec.

   i. The Generation System shall be started and connected in parallel with the MEMBER distribution system source

   ii. The MEMBER distribution system source shall be removed by opening a switch, breaker, etc.

   iii. The Generation System shall either separate with the local load or stop generating.

   iv. The device that was opened to remove the MEMBER distribution system source shall be closed and the Generation System shall not synchronize again with the MEMBER distribution system for at least 5 minutes.

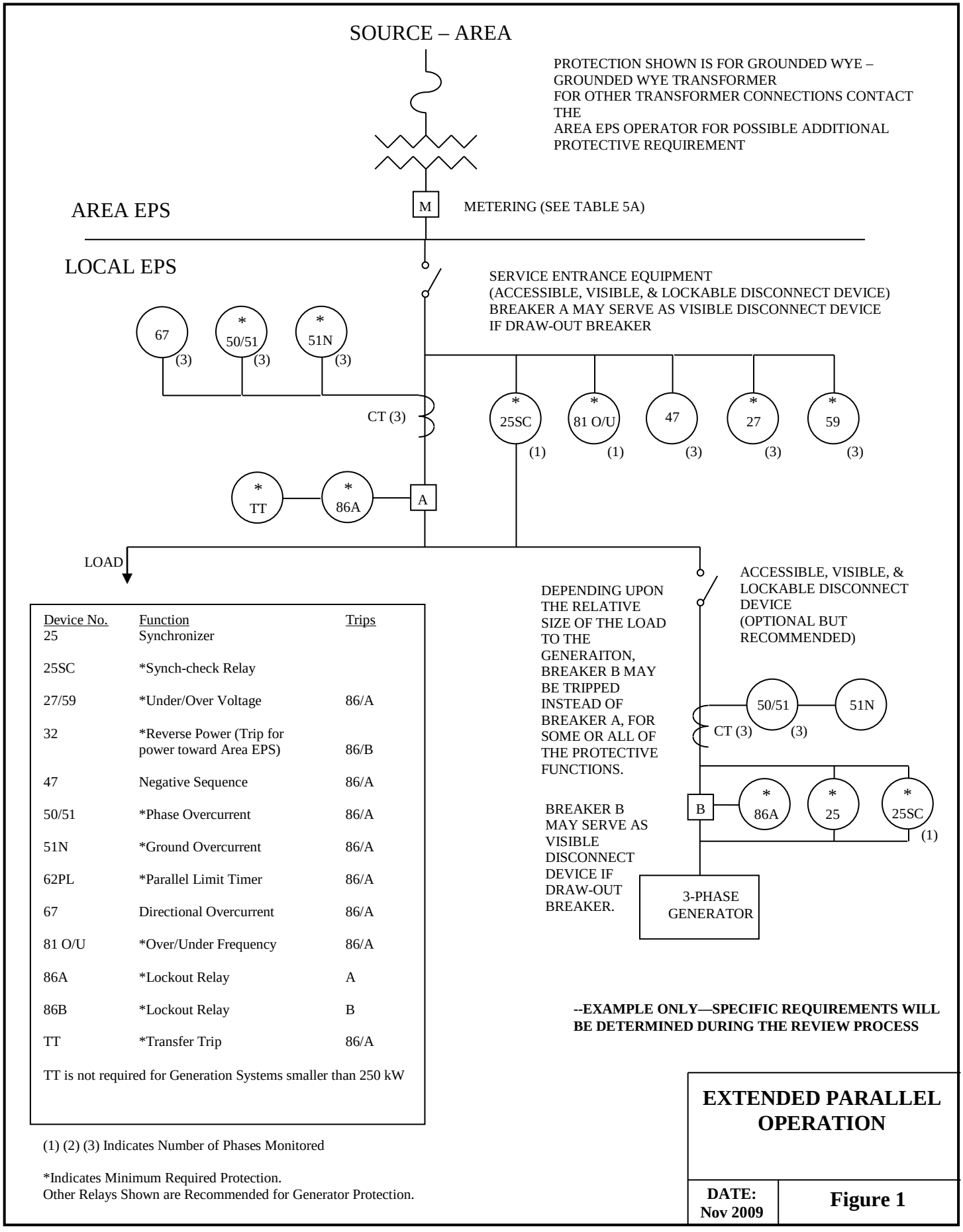
3. Final System Sign-off – To ensure the safety of the public, all interconnected customer owned generation systems, which do not utilize a Type-Certified system, shall be certified as ready to operate by a Professional Electrical Engineer registered in the State of Iowa, prior to the installation being considered ready for commercial use.

4. Periodic Testing and Record Keeping

   a. Any time the interface hardware or software, including protective relaying and generation control systems, are replaced and/or modified, the MEMBER Generation Coordinator shall be notified. This notification shall, if possible, be with sufficient warning so that MEMBER personnel can be involved in the planning for the modification and/or witness the verification testing. Verification testing shall be completed on the replaced and/or modified equipment and systems. The involvement of MEMBER personnel will depend upon the complexity of the Generation System and the component being replaced and/or modified. Since the Interconnection Customer and the MEMBER are now operating an interconnected system, it is important for each to communicate changes in operation, procedures, and/or equipment to ensure the safety and reliability of the Local and Area EPS.

b. All interconnection-related protection systems shall be periodically tested and maintained by the Interconnection Customer at intervals specified by the manufacture or system integrator. These intervals shall not exceed 5 years. Periodic test reports and a log of inspections shall be maintained by the Interconnection Customer and made available to the MEMBER upon request. The MEMBER shall be notified prior to the period testing of the protective systems so that MEMBER personnel may witness the testing if so desired.

Appendix A: Extended Parallel Diagram



Device No.	Function	Trips
25	Synchronizer	
25SC	*Synch-check Relay	
27/59	*Under/Over Voltage	86/A
32	*Reverse Power (Trip for power toward Area EPS)	86/B
47	Negative Sequence	86/A
50/51	*Phase Overcurrent	86/A
51N	*Ground Overcurrent	86/A
62PL	*Parallel Limit Timer	86/A
67	Directional Overcurrent	86/A
81 O/U	*Over/Under Frequency	86/A
86A	*Lockout Relay	A
86B	*Lockout Relay	B
TT	*Transfer Trip	86/A

TT is not required for Generation Systems smaller than 250 kW

(1) (2) (3) Indicates Number of Phases Monitored

*Indicates Minimum Required Protection.
Other Relays Shown are Recommended for Generator Protection.

--EXAMPLE ONLY—SPECIFIC REQUIREMENTS WILL BE DETERMINED DURING THE REVIEW PROCESS

EXTENDED PARALLEL OPERATION

DATE: Nov 2009

Figure 1

Appendix B
Interconnection Agreement
For the Interconnection of Extended Parallel Distributed Generation Systems with Electric Utilities

This Generating System Interconnection Agreement is entered into by and between the Area Electrical Power System (Area EPS) "MEMBER" and the Interconnection Customer "_____." The Interconnection Customer and Area EPS are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party."

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

I. SCOPE AND PURPOSE

A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10 MW or less in parallel with the Area EPS at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.

B. This Agreement governs the facilities required to interconnect and contains the terms and conditions under which the Interconnection Customer may interconnect the Generation System to the Area EPS. This Agreement does not authorize the Interconnection Customer to export power or does not constitute an agreement to purchase or to wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from the Area EPS, or others, may be covered under separate agreements.

C. To facilitate the operation of the Generation System, this Agreement also allows for the occasional and inadvertent export of energy to the Area EPS. The amount, metering, billing, and accounting of such inadvertent energy exporting shall be governed by Exhibit D Operating Agreement. This Agreement does not constitute an agreement by the Area EPS Operator to purchase or to pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).

D. This agreement does not constitute a request for the provision of any transmission delivery service or for any local distribution delivery service. If it is the Interconnection Customer's intent to sell to other parties, the Customer shall be responsible for Market Related charges to the Area EPS or its wholesale power supplier caused by the generator operation.

E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document entitled the "State of Iowa Electric Interconnection of Distributed Generation Facilities," a copy of which has been made available to the

Interconnection Customer and is incorporated and made part of this Agreement by this reference.

II. DEFINITIONS

A. Area EPS: An electric power system (EPS) that serves Local EPS. Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc.

B. Area EPS Operator: The entity that operates the Area EPS, i.e. Municipal Utility Name.

C. Dedicated Facilities: The equipment that is installed due to the interconnection of the Generation System and not required to serve other Area EPS customers.

D. EPS: Facilities that deliver electric power to a load. This may include generation units.

E. Extended Parallel: The Generation System is designed to remain connected with the Area EPS for an extended period of time.

F. Generation: Any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.

G. Generation Interconnection Coordinator: The person or persons designated by the Area EPS Operator to provide a single point of coordination with the Applicant for the generation interconnection process.

H. Generation System: The interconnected generator(s), controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables up to the Point of Common Coupling.

I. Interconnection Customer: The party or parties who will own/operate the Generation System and who is responsible for meeting the requirements of the agreements and Technical Requirements.

J. Local EPS: An EPS contained entirely within a single premises or group of premises.

K. Nameplate Capacity: The total nameplate capacity rating of all the Generation included in the Generation System. For this definition, the “standby” and/or maximum rated kW capacity on the nameplate shall be used.

L. Point of Common Coupling: The point where the Local EPS is connected to an Area EPS.

M. Point of Delivery: The point where the energy changes possession from one party to the other. Typically this will be where the metering is installed, but it is not required that the Point of Delivery is the same as where the energy is metered.

N. Technical Requirements: The "State of Iowa Electric Interconnection of Distributed Generation Facilities."

III. DESCRIPTION OF INTERCONNECTION CUSTOMER'S GENERATION SYSTEM

A. A description of the Generation System, including a single-line diagram showing the general arrangement of how the Interconnection Customer's Generation System is interconnected with the Area EPS's distribution system, is attached to, and made part of, this Agreement as Exhibit A. The single-line diagram shows the following:

1. Point of Delivery (if applicable)
2. Point of Common Coupling
3. Location of Meter(s)
4. Ownership of the equipment
5. Generation System total Nameplate Capacity _____ kW
6. Scheduled operational (on-line) date for the Generation System

IV. RESPONSIBILITIES OF THE PARTIES

A. The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, operating requirements, and good utility practices.

B. Interconnection Customer shall construct, operate, and maintain the Generation System in accordance with the applicable manufacturer's recommend maintenance schedule, the Technical Requirements, and in accordance with this Agreement.

C. The Area EPS Operator shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner and in accordance with standard design and engineering practices.

V. CONSTRUCTION

The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Iowa and to meet or exceed applicable codes and standards provided by the NESC, ANSI, IEEE, NEC, UL, Technical Requirements, and local building codes and other applicable ordinances in effect at the time of the installation of the Generation System.

A. Charges and payments

The Interconnection Customer is responsible for the actual costs to interconnect the Generation System with the Area EPS, including, but not limited to, any Dedicated Facilities attributable to the addition of the Generation System, Area EPS labor for installation coordination, installation testing and engineering review of the Generation System, and interconnection design. While estimates for budgeting purposes have been provided in Exhibit B, the actual costs are still the responsibility of the Interconnection Customer, even if they exceed the estimated amount(s). All costs for which the Interconnection Customer is responsible must be reasonable under the circumstances of the design and construction.

1. Dedicated Facilities

   a. During the term of this Agreement, the Area EPS Operator shall design, construct, and install the Dedicated Facilities outlined in Exhibit B. The Interconnection Customer shall be responsible for paying the actual costs of the Dedicated Facilities attributable to the addition of the Generation System.

   b. Once installed, the Dedicated Facilities shall be owned and operated by the Area EPS owner and all costs associated with the operation and maintenance of the Dedicated Facilities, after the Generation System is operational, shall be the responsibility of the Area EPS Operator unless otherwise agreed.

   c. By executing this Agreement, the Interconnection Customer grants permission for the Area EPS Operator to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities as outlined in Exhibit B. If for any reason, the Generation System project is canceled or modified, so that any or all of the Dedicated Facilities are not required, the Interconnection Customer shall be responsible for all costs incurred by the Area EPS, including, but not limited to, the additional costs to remove and/or complete the installation of the Dedicated Facilities. The Interconnection Customer may, for any reason, cancel the Generation System project in which case, none of the Dedicated Facilities are required to be installed. The Interconnection Customer shall provide written notice to the Area EPS Operator of cancellation. Upon receipt of a cancellation notice, the Area EPS Operator shall take reasonable steps to minimize additional costs to the Interconnection Customer where reasonably possible.

2. Payments

   a. The Interconnection Customer shall provide reasonable adequate assurances of credit including a letter of credit or personal guaranty of payment and performance from a creditworthy entity, which is acceptable under the Area EPS Operators credit policy and procedures for the unpaid balance of the estimated amount shown in Exhibit B.

b. The payment for the costs outlined in Exhibit B, shall be as follows:

i. 1/3 of estimated costs, outlined in Exhibit B, shall be due upon execution of this Agreement.

ii. 1/3 of estimated costs, outlined in Exhibit B, shall be due prior to initial energizing of the Generation System.

iii. Remainder of actual costs, incurred by the Area EPS, is due within 30 days from the date the bill is mailed by the Area EPS after project completion.

VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT

This agreement includes the following exhibits, which are specifically incorporated herein and made part of this Agreement by this reference: *(if any of these Exhibits are deemed not applicable for this Generation System installation they may be omitted from the final Agreement by the Area EPS.)*

1. Exhibit A – Generation System description and single-line diagram. This diagram shows all major equipment, including visual isolation equipment, Point of Common Coupling, Point of Delivery for Generation Systems that intentionally export, ownership of equipment, and the location of metering.

2. Exhibit B – Summary of Area EPS Costs and Description of Dedicated Facilities – Estimated installation and testing costs payable by the Interconnection Customer. Included in this listing shall be the description and the estimated costs for the required Dedicated Facilities installed by the Area EPS Operator for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by the Area EPS Operator.

3. Exhibit C – Engineering Data Submittal – A standard form that provides the engineering and operating information about the Generation System.

4. Exhibit D – Operating Agreement – This provides specific operating information and requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

5. Exhibit E – Maintenance Agreement – This provides specific maintenance requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

VII. TERMS AND TERMINATION

A. This Agreement shall become effective as of the date when both the Interconnection Customer and the Area EPS Operator have both signed this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

1. The Parties agree in writing to terminate the Agreement;

2. The Interconnection Customer provides written notice of cancellation of the generation project to the Area EPS Operator prior to the completion of the final acceptance testing of the Generation System by the Area EPS Operator (Upon receipt of a cancellation notice, the Area EPS Operator shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.);
3. Once the Generation System is operational, the Interconnection Customer may terminate this agreement 30 days after receipt of written notice by the Area EPS Operator, unless otherwise agreed to within the Exhibit D Operating Agreement; or

4. The Area EPS Operator may terminate this agreement after 30 days written notice to the Interconnection Customer if:

    a. The Interconnection Customer fails to interconnect and operate the Generation System consistent with the terms of this Agreement;

    b. The Interconnection Customer fails to take all corrective actions specified in the Area EPS's written notice that the Generation System is out of compliance with the terms of this Agreement, within the time frame set forth in such notice; or

    c. If the Interconnection Customer fails to complete the Area EPS Operator's final acceptance testing of the generation system within 24 months of the date proposed under section III.A.5.

B. Upon termination of this Agreement the Generation System shall be disconnected from the Area EPS. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing, at the time of the termination.

VIII. OPERATIONAL ISSUES

Each Party will, at its own cost and expense, operate, maintain, repair, and inspect, and shall be fully responsible for, the facilities which it now or hereafter may own, unless otherwise specified.

A. Technical Standards: The Generation System shall be installed and operated by the Interconnection Customer consistent with the requirements of this Agreement, the Technical Requirements, the applicable requirements located in the NEC, the applicable standards published by ANSI, and IEEE, and local building and other applicable ordinances in effect at the time of the installation of the Generation System.

B. Right of Access: At all times, the Area EPS Operator's personnel shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the Area EPS safely, and to provide service to its customers. If necessary, for the purposes of this Agreement, the Interconnection Customer shall allow the Area EPS Operator access to the Area EPS and Local EPS equipment and facilities located on the premises.

C. Electric Service Supplied: The Area EPS will supply the electrical requirements of the Local EPS that are not supplied by the Generation System. Such electric service shall be supplied to the Interconnection Customer's Local EPS under the rate schedules applicable to the Customer's class of service as revised from time to time by the Area EPS.

D. Operation and Maintenance: The Generation System shall be operated and maintained by the Interconnection Customer in accordance with the Technical Standards and with any additional requirements of Exhibit D and Exhibit E, attached to this document, as amended in writing from time to time.

E. Cooperation and Coordination: Both the Area EPS Operator and the Interconnection Customer shall communicate and coordinate their operations so that the normal operation of the Area EPS does not unduly affect or interfere with the normal operation of the Generation System, and so that the Generation System does not unduly effect or interfere with the normal operation of the Area EPS. Under abnormal operations of either the Generation System or the Area EPS System, the responsible Party shall provide reasonably prompt communication to the other Party to allow mitigation of any potentially negative effects of the abnormal operation of their system.

F. Disconnection of Unit: The Area EPS Operator may disconnect the Generation System as reasonably necessary, including: for termination of this Agreement, for non-compliance with this Agreement, for a system emergency, for imminent danger to the public or Area EPS personnel, or for routine maintenance, repairs, and

modifications to the Area EPS. When reasonably possible, the Area EPS Operator shall provide prior notice to the Interconnection Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, the Area EPS Operator shall, after the fact, provide information to the Interconnection Customer as to why the disconnection was required. It is agreed that the Area EPS Operator shall have no liability for any loss of sales or other damages including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable, due to the disconnection of the Generation System. The Area EPS Operator shall expend reasonable effort to reconnect the Generation System in a timely manner.

G. Modifications to the Generation System: When reasonably possible, the Interconnection Customer shall notify the Area EPS Operator, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by the area EPS Operator as part of the review described in this paragraph. The notification should occur at least twenty (20) business days prior to undertaking such modification(s). Detailed information on the modifications to any of the interconnection equipment, including all interconnection required protective systems, the generation control systems, the transfer switches/breakers, interconnection protection VTs & CTs, and Generation System capacity, shall be included in the notification to the Area EPS Operator. When reasonably possible, the Interconnection Customer agrees not to commence installation of any modifications to the Generating System until the Area EPS Operator has approved the modification in writing, at which time approval shall not be unreasonably withheld. The Area EPS Operator shall have a minimum of five (5) business days to review and respond, and shall not take longer than a maximum of ten (10) business days to review and respond, to the modification after the receipt of the information required for review. When it is not reasonably possible for the Interconnection Customer to provide prior written notice, the Interconnection Customer shall provide written notice to the Area EPS Operator after the completion of the modification(s) and as soon as reasonably possible.

H. Permits and Approvals: Prior to the construction of the Generation System, the Interconnection Customer shall obtain all environmental and other permits required by any governmental authorities. The Interconnection Customer shall also maintain and comply with the requirements of these permits during the term of this Agreement.

IX. LIMITATION OF LIABILITY

A. Each Party shall at all times indemnify, defend, hold, and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the Party's performance of its obligations under this Agreement, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the other Party.

B. Each Party's liability to the other Party for failure to perform its obligations under this Agreement shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any punitive, incidental, indirect, special, or consequential damages of any kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.

C. Notwithstanding any other provision in this Agreement, with respect to Area EPS Operator's provision of electric service to any customer including the Interconnection Customer, the Area EPS Operator's liability to such customer shall be limited as set forth in the Area EPS operator's tariffs and terms and conditions for electric service, and shall not be affected by the terms of this Agreement.

X. DISPUTE RESOLUTION

A. Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

B. In the event a dispute arises under this Agreement, and if it cannot be resolved by the Parties within thirty (30) days after written notice of the dispute to the other Party, the Parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in the State of Iowa. The Parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the Parties may refer the dispute for resolution to the Iowa Utilities Board (IUB) which shall maintain continuing jurisdiction over this Agreement.

XI. INSURANCE

A. At a minimum, in connection with the Interconnection Customer's performance of its duties and obligations under this Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:

1. Two million dollars ($2,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is greater than 250 kW.

2. One million dollars ($1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40 kW and 250 kW.

3. Three hundred thousand ($300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 40 kW.
4. Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury including wrongful death and (ii) property damage

arising out of the Interconnection Customer's ownership and/or operation of the Generation System under this agreement.

B. The general liability insurance required shall, by endorsement to the policy or policies, (a) include the Area EPS Operator as an additional insured, (b) contain a severability of interest clause or cross-liability clause, (c) provide that the Area EPS Operator shall not, by reason of its inclusion as an additional insured, incur liability to the insurance carrier for the payment of premium for such insurance, and (d) provide for thirty (30) calendar days' written notice to the Area EPS Operator prior to cancellation, termination, alteration, or material change of such insurance.

C. If the Generation System is connected to an account receiving residential service from the Area EPS Operator, and its total generating capacity is smaller than 40 kW, then the endorsements required in Section XI.B shall not apply.

D. The Interconnection Customer shall furnish the required insurance certificates and endorsements to the Area EPS Operator prior to the initial operation of the Generation System. Thereafter, the Area EPS Operator shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance.

E. Evidence of the insurance required in Section XI.A. shall state that coverage provided is primary and is not in excess to or contributing to any insurance or self-insurance maintained by the Area EPS Operator.

F. If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section XI.A – E:

1. Interconnection Customer shall provide to the Area EPS Operator, at least thirty (30) days prior to the date of initial operation, evidence of a plan acceptable to the Area EPS to self-insure to a level of coverage equivalent to that required under section XI.A.

2. If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of its ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section XI.A.

G. Failure of the Interconnection Customer or Area EPS Operator to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.

H. All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the following:

City of Pella Electric Distribution Department
Attention: Electric Distribution Superintendent
222 Truman Road
Pella, IA 50219

XII. MISCELLANEOUS

A. FORCE MAJEURE

1. An event of Force Majeure means any act of God, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental, military, or lawfully established civilian authorities, or any other cause beyond a Party's control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

2. Neither Party will be considered in default of any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure; however, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

B. NOTICES

1. Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person or sent by United States Mail, first class, postage prepaid, to the person specified below:

   a. If to Area EPS Operator:
   City of Pella Electric Distribution Department
   Attention: Electric Distribution Superintendent
   222 Truman Road
   Pella, IA 50219

   b. If to Interconnection Customer:
   (Interconnection Customer)
   Attention: Generation Coordinator
   12345 Interconnection Drive
   Pella, IA 50219

2. A Party may change its address for notices at any time by providing the other Party written notice of the change, in accordance with this Section.

3. The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and telephone numbers, may be communicated or revised by one Party's notice to the other Party.

C. ASSIGNMENT

The Interconnection Customer shall not assign its rights nor delegate its duties under this Agreement without the prior written consent of the Area EPS Operator. Any assignment or delegation the Interconnection Customer made without the Area EPS Operator's written consent shall not be valid. The Area EPS Operator shall not unreasonably withhold its consent to the Interconnection Customer's assignment of this Agreement.

D. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

E. GOVERNING LAW AND INCLUSION OF AREA EPS OPERATOR'S TARIFFS AND RULES

1. This Agreement shall be interpreted, governed, and construed under the laws of the State of Iowa as if executed and to be performed wholly within the State of Iowa without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

2. The interconnection and services provided under this Agreement shall, at all times, be subject to the terms and conditions set forth in the tariff schedules and in rules applicable to the electric service provided by the Area EPS Operator, which tariff schedules and rules are hereby incorporated into this Agreement by this reference.
3. Notwithstanding any other provisions of this Agreement, the Area EPS Operator shall have the right to unilaterally change its rates, charges, classification, service, tariff, or rule, or any agreement relating thereto subject to standard municipal procedures as determined by the appropriate governing board.

F. AMENDMENT AND MODIFICATION

This Agreement can only be amended or modified by a writing signed by both Parties.

G. ENTIRE AGREEMENT

This Agreement, including all attachments, exhibits, and appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the Generation System of the Parties at the Point(s) of Common Coupling expressly provided for in this Agreement and supersedes all prior agreements or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement. Each party also represents that in entering into this Agreement, it has not relied on the promise, inducement, representation, warranty, agreement, or other statement not set forth in this Agreement or in the incorporated attachments, exhibits, and appendices.

H. CONFIDENTIAL INFORMATION

Except as otherwise agreed or provided herein, each Party shall hold in confidence and shall not disclose confidential information to any person (except employees, officers, representatives, and agents who agree to be bound by this section). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency, or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or other order, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver, the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any confidential information so furnished.

I. NON-WARRANTY

Neither by inspection, if any, or non-rejection, nor in any other way, does the Area EPS Operator give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including, without limitation, the Generation System and any structures, equipment, wires, appliances, or devices appurtenant thereto.

J. NO PARTNERSHIP

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties, or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

XIII. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By: _____

Name: _____

Title: _____

Date: _____

MEMBER

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT A –

GENERATION SYSTEM DESCRIPTION AND SINGLE-LINE DIAGRAM

Attach the one-line diagram of the specific Generation System which this agreement applies.

EXHIBIT B –

SUMMARY OF AREA EPS COSTS AND DESCRIPTION OF DEDICATED FACILITIES BEING INSTALLED BY THE AREA EPS OPERATOR FOR THE INTERCONNECTION OF THE GENERATION SYSTEM

This Exhibit shall provide the estimated total costs that will be the responsibility of the Interconnection Customer. It is assumed that the initial application has been filed and the engineering studies have been paid for and completed; those costs are not included on this listing.

What is listed below is a general outline of some of the major areas where costs could occur. Costs other than those listed below may be included by the Area EPS, provided that those additional costs are a direct result from the request to interconnect the Generation System. The following list is only a guideline and each Area EPS Operator will be creating a unique Exhibit B that is tailored for each specific Generation System Interconnection.

A. Dedicated Facilities (equipment, design, and installation labor)

B. Monitoring & Control System (equipment, design and installation labor)

C. Design Coordination and Review

D. Construction Coordination labor costs

E. Testing (development of tests and physical testing)

F. Contingency

EXHIBIT C –

ENGINEERING DATA SUBMITTAL

Attach a completed Engineering Data Submittal form, i.e. Appendix C of MEMBER Interconnection Process for Distributed Generation Systems."

EXHIBIT D –

OPERATING AGREEMENT

Each Generation System interconnection will be unique and will require a unique Operating Agreement. The following is a listing of some of the possible areas that will be covered in an operating agreement. The following has not been developed into a standard agreement due to the unique nature of each Generation System. It is envisioned that this Exhibit will be tailored by the Area EPS Operator for each Generation System interconnection. It is also intended that this Operating Agreement Exhibit will be reviewed and updated periodically to allow the operation of the Generation System to change to meet the needs of both the Area EPS Operator and the Interconnection Customer. There may also be operating changes required by outside parties or influences, such as changes in FERC and MISO requirements and/or policy changes which will require this Operating Agreement to be modified.

The following items are provided to show the general types of items that may be included in this Operating Agreement. The list of items is not all-inclusive and is not meant to preclude any other issues that may be addressed in the Operating Agreement.

A. Applicable Area EPS Tariffs –Identify which tariffs are being applied for and how the tariffs would be applicable to this installation.

B. Var Requirements – Sufficient power factor correction and control devices shall be furnished on the generation system such that a 98% power factor, minimum, is maintained accross the point of interconnection at all times. Sufficient power factor correction and control devices shall be furnished on the generation system to provide the capability of unity power factor across the point of interconnection when operating at full generation output capacity. The generation system shall be set up to attempt to maintain unity power factor at all times during operation.

C. Inadvertent Energy – The project will be adequately metered, with metering that is approved by the Western Area Power Administration and MEMBER. The meter will be a bi-directional meter capable of metering the energy and power coming from the Generation or capable of being furnished to the generator. The project and the Interconnection Customer will comply with the standards set out in the Distributed Generation Interconnection Requirements document. Any inadvertent energy caused by scheduling of generation will be handled within the agreement and is not part of this contract.

D. Control Issues – Starting and stopping of the generation, including the remote starting and stopping, if applicable.

E. Dispatch of Generation Resources – What are the dispatch requirements for the Generation System; can it only run during Peak Hours? Are there a limited number of hours that it can run? Is it required to meet an availability percentage? The

answer to these questions will depend greatly upon the PPA and other requirements. Is the Interconnection Customer required to coordinate outages of the Generation System with the Area EPS? Prior to any planned outage and following an unplanned outage, the Area EPS and Missouri River Energy Services (MRES) shall be notified in a timely manner.

F. Outages of Distribution System – How are emergency outages handled? How are other outages scheduled? If the Interconnection Customer requires the Area EPS Operator to schedule the outages during after-hours, who pays for the Area EPS Operator's overtime?

G. Notification/Contacts – Who should be notified? How should they be notified? When should they be notified? For what reasons, should the notification take place?

1. Starting of the Generation

2. Dispatching of Generation

3. Notification of failures (both Area EPS and Generation System failures)

H. Documentation of Operational Settings – How much fuel will the generation System typically have on hand? How long can it run with this fuel capacity? How is the generation system set to operate for a power failure? These may be issues documented in the Operating Agreement. The following are examples of what may be documented:

1. The Generation System will monitor the Area EPS phase voltage and after 2 seconds of any phase voltage below 90%, the generation will be started and the load transferred to the generator, if the generation is not already running.

2. The Generation System will wait for 30 minutes after it senses the return of the Area EPS frequency and voltage before it will automatically reconnect to the Area EPS.

I. Cost of Testing for Future Failures – If a failure of a component of the Generation System affects the interconnection with the Area EPS, what is the process for retesting, and for replacement? Who pays for the additional costs of the Area EPS to work with the Interconnection Customer to resolve these problems and/or to complete retesting of the modified equipment?

J. Right of Access – At all times, the Area EPS Operator shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the Area EPS safely, and to provide service to its customers. If necessary for the purpose of this Agreement, the

Interconnection Customer shall allow the Area EPS Operator access to the Area EPS's equipment and facilities located on the premises.

K. Power Quality – The installation shall be constructed and operated to insure that the MEMBER electric distribution system is not adversely affected by power quality issues which may be caused by the wind generation, including voltage flicker. The generation system shall be equipped with devices which serve to minimize power quality disturbances, including soft starting controls to minimize inrush currents and including control devices to prevent multiple units from starting simultaneously.

SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By: _____

Name: _____

Title: _____

Date: _____

MEMBER

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT E –

MAINTENANCE AGREEMENT

Each Generation System interconnection will be unique and will require a unique Maintenance Agreement. This Exhibit will be tailored for each Generation System interconnection. It is also intended that this Maintenance Agreement Exhibit will be reviewed and updated periodically to allow changes to meet the needs of both the Area EPS Operator and the Interconnection Customer (provided the change does not negatively affect the other Party). There may also be changes required by outside parties and influences such as changes in FERC or MISO requirements and/or policies which will require this agreement to be modified.

A. Routine Maintenance Requirements –

1. Who is providing maintenance – Contact information
2. Periods of maintenance

B. Modifications to the Generation System – The Interconnection Customer shall notify the Area EPS Operator, in writing, of plans for any modifications to the Generation System interconnection equipment at least twenty (20) business days prior to undertaking such modification. Modifications to any of the interconnection equipment, including all required protective systems, the generation control systems, the transfer switches/breakers, VTs & CTs, generating capacity, and associated wiring, shall be included in the notification to the Area EPS Operator. The Interconnection Customer agrees not to commence installation of any modifications to the Generating System until the Area EPS Operator has approved the modification in writing. The Area EPS shall have a minimum of five (5) business days and a maximum of ten (10) business days to review and respond to the modification after receipt of the information required for review of the modifications.

SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By: _____

Name: _____

Title: _____

Date: _____

MEMBER

By: _____

Name: _____

Title: _____

Date: _____