

# **PERMANENT STANDARDS WORKING GROUP**

## **APPENDIX B**

### **REQUIREMENTS FOR METER COMMUNICATIONS IN DIRECT ACCESS**

**July 29, 1998**

**VOTING RESULTS:**

Because some issues were passed without a unanimous agreement among PSWG participants, each of the issues adopted as requirements in this Appendix B has a table listing entities along with their voting positions. Since some of the entities were sometimes absent from the PSWG Plenary meetings, the tables of the ballot results will show that these entities voted on some issues but not the others.

# PSWG APPENDIX B: Requirements for Meter Communications in Direct Access

## I. METER COMMUNICATIONS STANDARDS

### I.1. Standard Required for Meter Products Used in Direct Access: ANSI C12.19-1997 (Utility Industry End Device Data Table)

Table I.1-1 shows the ballot result to accept Table I.1-2 as a requirement for ANSI C12.19 application, and Table I.1-2 lists the ANSI C12.19 Standard and its specific requirements on how ANSI C12.19 applies on meter products.

**Table I.1-1: Ballot Result on Application of ANSI C12.19 Standard (PSWG Plenary meeting on June 11, 1998)**

For: 16	Against: 4	Abstain: 4
ABB	California Competition Network	Applied Metering Technologies
California Energy Commission	Cellnet	CPUC-ORA
Coalition of California Utility Employees	ENRON	eT Communications
EPRI	Star Data	Phaser
GE		
Institute of Gas Technology/IEEE		
ITRON		
LADWP		
NERTEC		
Pacificorp		
PG&E		
SCE		
Schlumberger		
SDG&E		
Sierra Pacific Power		
Southern Company		

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**Table I.1-2: Requirements for Application of ANSI C12.19 Standard on all communication technologies except as noted.**

Applicable for DA?	Required in D97-12-048	Staging Plan (Effective date varies by meter products as defined in Section I above)					
		New meter types must conform	Meter products of previously-approved NC meter types may be purchased	In-inventory NC meter products may be installed	In-service NC meter products will be removed after	Re-worked NC meter products must comply	Recycled NC meter products may be installed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Yes	No	After 3/20/00 <sup>(a)</sup>	Throughout the commercial life of the product. No effective date for ANSI C12.19 compliance	No effective date for ANSI C12.19 compliance	No effective date for ANSI C12.19 compliance	No effective date for ANSI C12.19 compliance	No effective date for ANSI C12.19 compliance

<sup>(a)</sup> 2 years from ANSI C12.19 Standard publication date.

As summary, new meter types used in Direct Access shall comply with ANSI C12.19 Standard regardless of communication technology used by the meter products.

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### Definitions of Terms used in Table I.1-2:

**A meter type:** Meter type that includes all parts, components, and circuit boards, functioning as a unit. A meter type includes all communication technologies and any additional functions utilized by that meter type and operated as a unit. In a situation where a meter can work with multiple technologies or functions, but can only operate separately and individually with a single communication technology or function, the combination of the meter and one communication technology or function shall be considered as a different meter type from the combination of that meter and another communication technology or function. For example, meter brand "X" with a phone modem attached is a different type from the same meter brand "X" with a radio modem attached.

**Column (3) New meter types:** Meter types that satisfy CPUC requirements described in the CPUC Decision D.97-12-048 or the new requirements to be recommended by the PSWG and approved by the CPUC. These meter types can be a new meter design or an existing meter which has undergone a significant design change. A significant design change includes addition of a new circuit board with new meter function(s) not previously used with the meter type, or consolidation of two or more circuit boards.

**Conforming meter type:** Meter type that complies with ANSI C12.19 Standard.

**Non-conforming (NC) meter type:** Meter type that does not comply with ANSI C12.19 Standard.

**Column (4) Previously-approved NC meter types:** Meter types that satisfy CPUC requirements described in the CPUC Decision D.97-12-048 and are currently being installed in California, but do not comply with ANSI C12.19 Standard.

**Column (5) In-inventory meter products:** Meter products that have been purchased and stored in inventory, but not yet installed for direct access service in California. This does not include used, re-worked, or recycled meters.

**Column (6) In-service meter products:** Meter products that have been approved and are currently in service for Direct Access.

**Used meter products:** Meter products that are removed from service.

**Column (7) Re-worked meter products:** Used meter products that are repaired, rebuilt, or refurbished. These do not include recycled or retrofitted meter products.

**Column (8) Recycled meter products:** Used meter products that are cleaned, tested for accuracy and good operating condition, and returned to inventory.

**Retrofitted meter products:** In-inventory or used meter products that are retrofitted with electronic modules.

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### I.2. Meter Communications Standards to be Reviewed

ANSI C12.21 Standard, Protocol Specification for Telephone Modem and ANSI C12.22 Standard, Meter Interface to Network Protocol Gateway (identified in the MDCS Workshop Report) have not been approved by ANSI, but should be reviewed when they are approved by ANSI.

Table I.2-1 shows the ballot result on this issue:

**Table I.2-1: Ballot Result (Plenary meeting on July 13, 1998)**

For: 18	Against: 2	Abstain: 1
ABB	California Energy Commission	Phaser
Applied Metering Technologies	ITRON	
CPUC-ORA		
Cellnet		
E-Mon		
EPRI		
eT Communications		
Firstpoint		
GE		
LADWP		
NERTEC		
PG&E		
SCE		
Schlumberger		
SDG&E		
Sierra Pacific Power		
Southern Company		
TeCom		

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## II. KYZ CONTACT OUTPUT AND CONSUMER PROTECTION

### II.1. KYZ Contact Output

Meter products are not required to have a contact output. If a meter product has a contact output, it should be KYZ pulses per ANSI C12.1-1995 Standard (Code for Electricity Metering).

Below is Table II.1-1 showing the ballot result of 100% agreement on this requirement:

**Table II.1.-1: Ballot Result on KYZ Pulses (Plenary Meeting on July 13, 1998)**

For: 23	Against: 0	Abstain: 0
ABB		
Applied Metering Technologies		
California Energy Commission		
CPUC-ORA		
Cellnet		
Coalition of California Utility Employees		
E-Mon		
ENRON		
EPRI		
Firstpoint		
GE		
ITRON		
LADWP		
NERTEC		
PG&E		
Phaser		
SCE		
Schlumberger		
SDG&E		
Sierra Pacific Power		
Southern Company		
TeCom		

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### II.2. Consumer Protection on KYZ Contact Output

For DA customers who currently have their energy management systems utilizing KYZ outputs, they shall be notified by their ESP if a new meter used for DA will not be compatible with their energy management systems.

Below is Table II.2-1 showing the ballot result on this requirement:

**Table II.2-1: Ballot Result on KYZ Consumer Protection (Plenary Meeting on July 13, 1998)**

For: 8	Against: 3	Abstain: 11
Cellnet	Applied Metering Technologies	ABB
CPUC-ORA	ENRON	California Energy Commission
EPRI	Phaser	E-Mon
eTCommunications		Firstpoint
LADWP		GE
SCE		ITRON
Southern Company		NERTEC
TeCom		PG&E
		Schlumberger
		SDG&E
		Sierra Pacific Power



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### III. VISUAL METER READ

All DA meters shall have a visual kWh display and must have a physical interface to enable on-site interrogation of all stored meter data. There are two reasons for requiring a visual meter display: 1) For consumer protection: The consumer can verify that the meter read matches the bill, and 2) For on-site interrogation when other meter communication systems fail: This would enable entities who are responsible for billing/settlements to obtain the meter read when investigating the communications failure. For electromechanical meters, the dials are sufficient for this on-site interrogation. Electronic meters must have a visual display of the total kWh energy consumption, as a minimum.

Below is Table III-1 showing the ballot result and entities' positions on this requirement:

**Table III-1: Ballot Result on Back-up Meter Reads (PSWG Plenary meeting on April 30, 1998)**

For: 17	Against: 4	Abstain: 3
California Energy Commission	ABB	Applied Metering Technologies
CPUC-ORA	NERTEC	ENRON
Coalition of California Utility Employees	Pacificorp	GE
E-Mon	Phaser	
EPRI		
Firstpoint		
Institute of Gas Technology/IEEE		
ITRON		
LADWP		
PG&E		
QST (by EMS)		
SCE		
Schlumberger		
SDG&E		
Sierra Pacific Power		
So. Cal. Gas		
TeCom		

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### IV. METER PASSWORD AUTHORIZATION

There are three types of password authorization:

1. Full read/write
2. Billing read/write (other routine maintenance exclusive of programming revenue quantities)
3. Read only

Because ESPs are responsible for safety, accuracy, and reliability of meters used in Direct Access, they shall have the authority to issue meter passwords at their discretion, but must issue read passwords to UDCs for audit purposes upon request. ESPs will provide meter passwords in a timely manner for UDCs to perform their scheduled functions.

Below is Table IV-1 showing the ballot result of 100% agreement on this requirement:

**Table II-1: Ballot Result on Meter Password Authorization (Plenary meeting on July 13, 1998)**

For: 23	Against: 0	Abstain: 0
ABB		
Applied Metering Technologies		
California Energy Commission		
CPUC-ORA		
Cellnet		
Coalition of California Utility Employees		
E-Mon		
ENRON		
EPRI		
Firstpoint		
GE		
ITRON		
LADWP		
NERTEC		
PG&E		
Phaser		
SCE		
Schlumberger		
SDG&E		
Sierra Pacific Power		
Southern Company		
TeCom		