



IN THE MATTER OF THE APPLICATION
OF PUBLIC SERVICE COMPANY OF
COLORADO FOR APPROVAL OF ITS 2009
RENEWABLE ENERGY STANDARD
COMPLIANCE PLAN

DOCKET NO. 08A-_____E

DIRECT TESTIMONY

OF

CHRIS PARDINGTON

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

IN THE MATTER OF THE APPLICATION OF)	
PUBLIC SERVICE COMPANY OF)	DOCKET NO. 08A-____E
COLORADO FOR APPROVAL OF ITS 2009)	
RENEWABLE ENERGY STANDARD)	
COMPLIANCE PLAN)	

**DIRECT TESTIMONY OF
CHRIS PARDINGTON**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Chris Pardington. My business address is 1123 W. 3rd
3 Avenue, Denver, Colorado 80223.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?**

5 A. I am employed by Public Service Company of Colorado. My job title is
6 Manager, Electric Area Engineering.

7 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THE PROCEEDING?**

8 A. I am testifying on behalf of Public Service Company of Colorado ("Public
9 Service" or the "Company").

10 **Q. HAVE YOU INCLUDED A DESCRIPTION OF YOUR QUALIFICATIONS,
11 DUTIES, AND RESPONSIBILITIES?**

12 A. Yes. A description of my qualifications, duties, and responsibilities is
13 included as Attachment A.

14 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

1 A. The purpose of my direct testimony is to present and support the
2 Company's revised position concerning the need for External Alternating
3 Current Disconnect Switches ("EDS").

4 **Q. WHAT IS THE COMPANY'S POSITION CONCERNING EDS?**

5 A. In Docket No. 07A-462E, CoSEIA questioned whether Public Service still
6 should require all solar installations to include an EDS. The Commission
7 ordered Public Service to review this matter. I have, since that time,
8 reviewed a number of papers, OSHA regulations, and activities that have
9 recently transpired in other states. Based upon that review, Public
10 Service believes that there is no longer a need to require AC EDS for
11 solar systems with a capacity below 10 kW, so long as the solar system
12 has a UL 1741 standard certified inverter.

13 **Q. WHY IS THE COMPANY'S POSITION LIMITED TO SOLAR SYSTEMS**
14 **THAT HAVE INVERTERS THAT ARE UL 1741 CERTIFIED?**

15 A. UL 1741 testing provides certification that the inverter is compliant with
16 IEEE standards 1547 and 1547.1, and therefore has the triple redundant
17 anti-islanding circuitry that normally will cause it to cease generating AC
18 power in the event of a utility outage.

19 **Q. WHY IS THE COMPANY'S POSITION LIMITED TO SMALL SOLAR**
20 **SYSTEMS?**

21 A. Inverter based PV systems less than 10 kW are too small to have the
22 capability of backfeeding our distribution system should the anti-islanding
23 features fail. Larger systems could backfeed into our system – causing a

1 safety concern. The incremental cost of including an EDS associated with
2 larger systems is very small compared to the overall cost of larger solar
3 systems, so we believe that the safety benefits afforded by the EDS on
4 larger systems far outweighs the incremental cost.

5 **Q. DOES ELIMINATING THE NEED FOR AN AC EDS MEAN THAT THERE**
6 **MAY BE TIMES WHEN PUBLIC SERVICE MAY HAVE TO PULL A**
7 **CUSTOMER'S METER?**

8 A. Yes. Without an AC EDS, there may be occasions when our linemen will
9 need to pull a customer's meter, even where the solar installation is below
10 10 kW in order to assure a safe working environment.

11 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

12 A. Yes, it does.

Statement of Qualifications

Chris Pardington

I received a Bachelor of Science degree in Electrical Engineering with a Power Systems Emphasis from New Mexico State University in 1988. I have 9 credit hours of post-graduate study in Power System Engineering with the University of Colorado at Boulder.

I began my professional career in 1988 with Southwestern Public Service Company. While there I held engineering positions in distribution, substation maintenance, metering, and substation design. All of these assignments included extensive fieldwork and direction of line, substation, and meter technicians.

I served as an Associate Instructor in the Electric Utility Technology program at South Plains College in Levelland, Texas from 1992 until 1998. This was a two-year associate's degree program intended to prepare students for careers within the industry.

In 2003, I transferred to Colorado in my present position of Manager of Electric Area Engineering. My group of ten Engineers scattered throughout the state holds responsibility for engineering support of the design, maintenance and operation of the PSCO distribution system. This includes the interconnection of distributed generation.