PROCESS CONTROL PROGRAM FOR PROCESSING OF RADIOACTIVE WET WASTES AT QUAD CITIES NUCLEAR POWER STATION

APPROVAL SIGNATURE	STATION MANAGER TITLE	11.5.98 EFFECTIVE DATE

A. PURPOSE

The purpose of this Process Control Program (PCP) is to insure that in-plant waste process systems, vendor supplied waste process systems and High Integrity Containers (HICs) are used as applicable to process low level radioactive wet wastes and properly package wastes for on-site storage or disposal as required by Technical Specifications.

B. DISCUSSION

B.1. This PCP supersedes the previous stand alone Process Control Program, Revision 11, September 1993.

B.2. **IF** any of the PCP criteria can **NOT** be satisfied, which may result in a defective final waste produce, **THEN** shipment and further waste processing operations shall be suspended until a root cause determination is identified per NSP-AP-1004, and corrective action taken.

B.3. The criteria for the Quad Cities Nuclear Power Station PCP include all NRC, Department of Transportation (DOT), State, and Licensed Burial Facilities' rules and regulations for the processing, packaging, on-site storage, and shipping of low level radioactive waste (LLRW).

B.4. ComEd requires that all vendors used to process liquid LLRW at QCNPS or at a vendor off-site liquid LLRW processing facility must meet all applicable ComEd quality standards and shall have submitted a Process System Topical Report to the NRC.

B.5. Any revisions made to this procedure must be communicated to the Station Effluent Coordinator. This is to ensure the changes are forwarded to the NRC via the Annual Radiological Effluent Report.

C. KEY DEFINITIONS

C.1. PROCESS CONTROL PROGRAM:

The program which contains the current formulas, sampling, analysis, tests and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State Regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

C.2. SOLIDIFICATION:

Liquid Waste combined with a solidification media, such as cement, to form a free standing monolith.

C.3. DEWATERING:

The removal of liquids from liquid waste streams to produce a waste form that meets the requirements of 10CFR61 and applicable burial site criteria.

C.4. HIGH INTEGRITY CONTAINER:

A disposable container which can be utilized to package dewatered liquid wastes, filter cartridges and other dry active wastes requiring stability for disposal. The use of HICs is alternate to solidification or encapsulation to provide stability.

C.5. ENCAPSULATION:

The process of placing cartridge filters or mechanical components into a special purpose disposable container and then completely surrounding the waste material with an approved stabilization media, such as cement.

C.6. LIQUID WASTE PROCESSING SYSTEMS:

In-plant or vendor supplied processing systems consisting of equipment utilized for filtration, demineralization, dewatering or solidification of liquid wastes at QCNPS.

C.7. PRIMARY WASTE STREAMS:

a. Filter media (powdered resin and fiber), from the Radwaste, Condensate, Fuel Pool and Reactor Water Cleanup filter demineralizers.

b. Spent bead resin or charcoal from the Radwaste Equipment drain and Floor Drain demineralizers.

C.8. SECONDARY WASTE STREAMS:

Fuel pool activated hardware, spent bead resin from decontaminations, sump sludges, tank residue, high activity filter cartridges, contaminated waste oil, dried sewage or Waste Water Treatment Plant waste, and other waste from cleanup of inadvertent contaminations.

C.9. DRY ACTIVE WASTE (DAW):

Wastes such as air filters, dried low activity cartridge filters, paper, wood, plastic, cardboard, hoses, cloth and metals, etc. which have become contaminated as a consequence of normal operating, housekeeping and maintenance activities.

D. PROCEDURE

D.1. Vendor Process System(s) operations at QCNPS will be performed and controlled in accordance with vendor and station approved procedures.

D.2. All waste streams processed for burial or on-site storage shall be classified and meet the waste characteristics as required by 10CFR part 61.55, part 61.56, currently operating burial site license and burial site criteria.

D.3. Station and on-site vendor procedures shall be followed to comply with this PCP. The Station procedures for processing, Radiological Controls, waste classification, manifesting and shipping are contained in the following series of procedures:

a. QOP and QCOP 2000 series, Radwaste Operating Procedures.

b. QCRP 5600 series, Radiation Protection Procedures.

D.4. All dewatering is performed by on-site vendors or at a vendor off-site liquid LLRW processing facility. **IF** solidification is required, **THEN** solidification is performed at a vendor off-site liquid LLRW processing facility. The Vendor process Control Procedures contain the formulas, sampling, analysis, tests and determinations required to be made to ensure that processing and packaging of waste is accomplished to assure compliance with the requirements of 10CFR61, currently operating burial site license and burial site criteria.

D.5. On-site vendor procedures are reviewed and approved per QCAP 1100-15 to assure compatibility with station systems, procedures and Technical Specification.

D.6. On-site vendor procedure requirements are either incorporated into or referenced in the station waste processing and shipping procedures to assure compliance.

D.7. All references to use the GE in-plant Solidification System for waste processing have been deleted from the PCP, except for the use of the drum transfer cart and drum storage lines, which may be used for higher dose DAW storage. Although a GE in-plant cement solidification system was installed during initial construction and utilized for many years, QCNPS currently uses only commercial, vendor - supplied processing systems for the processing of the liquid wastes generated by the Station. The GE in-plant cement system had initially functioned as intended, however, due to changing regulations on waste forms, its use was eventually restricted to processing only wastes which did **NOT** require stability, which accounts for only a small fraction of the total wet wastes. The use of contract vendor services proved to be cost effective over continued restricted use of the GE in-plant cement system and additionally provided means for reduced personnel radiation expose during waste processing and waste container handling.

D.8. Vendors who supply HICs to the station must provide a copy of the HIC Certificate of Compliance, which details specific limitations on use of the HIC.

D.9. Additionally, vendors who supply HICs to the station must provide a handling procedure, which provides guidelines for the utilization of the HIC. These guidelines serve to protect the integrity of the HIC and ensure the HIC meets the requirements of the Certificate of Compliance handling.

D.10. QCNPS will use in-plant or commercial vendor-supplied processing systems for the processing of the liquid LLRW streams generated by the station.

D.11. **IF** solidification or encapsulation is to be performed on site at QCNPS, **THEN** specific station procedures shall be developed and approved for use, as well as appropriate revisions made and approved to this PCP.

D.12. Normally, each liner/HIC is considered as an individual batch for sampling and waste classification purposes.

D.13. All waste containers and shipping packages will be inspected for compliance with DOT, NRC, Station, on-site storage, or currently operating burial site requirements prior to use or shipment off-site.

D.14. LIQUID WASTE PROCESSING SYSTEM OPERATIONS (FILTRATION, DEMINERALIZATION, WASTE HOLDING, AND WASTE TRANSFER):

a. Radwaste, Condensate, Fuel Pool and Reactor Water Cleanup filter demineralizers utilize filter media (powdered resin and fiber) to remove suspended solids and provide ion-exchange.

b. Radwaste Equipment Drain and Floor Drain deep bed demineralizers utilize bead resin to provide ion-exchange or activated charcoal for organics removal.

c. Vendor supplied filter and demineralizer vessels may also be used during decontamination of plant systems such as Reactor Recirc, Reactor Water Cleanup, Residual Heat Removal and Shutdown Cooling. The exhausted spent resins are normally discharged directly to vendor waste processing equipment. Filter elements are packaged into HICs for storage or disposal.

d. Periodically, in-plant sumps and tanks are cleaned. The resulting sump sludges or tank residue can be returned to the in-plant holding tanks, temporarily stored in drums or other approved waste containers for future discharge to vendor processing equipment or are discharged directly to vendor processing equipment.

e. **WHEN** in-plant filter demineralizer filter media or deep bed demineralizer bead resins are exhausted, **THEN** exhausted material is removed from the process vessels to holding tanks for future waste processing.

f. The holding tanks utilized are the Backwash Receiving Tanks, Waste Sludge Tank, Condensate Phase Separators, Reactor Water Cleanup Phase Separators, Waste Demin and Max-Recycle Spent Resin Tanks.

g. The Radwaste Mixing Tank is utilized to collect and concentrate filter media wastes from the Condensate or Reactor Water Cleanup Phase Separators for processing.

h. Bead resin or activated charcoal wastes from the Waste Demin and Max-Recycle Spent Resin Tanks are **NOT** routed to the mixing Tank, but bypass the Mixing Tank and are routed directly to vendor waste processing equipment.

D.14. (cont'd)

i. The filter media wastes are concentrated in the Mixing Tank through a series of fill, settling and decant operations. During the decants, excess water is removed with a decant pump from the top of the settled sludge. **WHEN** Mixing Tank fill operations are completed, **THEN** the tank contains approximately 1700 gallons of filter media waste.

j. The Mixing Tank can be mixed, recirculated and sampled for waste analysis.

D.15. LIQUID WASTE PROCESS SYSTEMS OPERATIONS (DEWATERING):

a. On-site vendor dewatering operations are normally done with the disposable waste container (liner/HIC) placed in either a shielded shipping cask or process shield. Processing in this manner reduces radiation exposure to personnel involved with processing, storage and shipping activities.

b. The cask or process shield and liner/HIC are inspected and setup for use as required by vendor and station procedures.

c. As part of the liner/HIC setup, a thermocouple wire is inserted to provide a means to monitor waste temperatures during processing. **IF** dewatering waste, **THEN** temperature monitoring is necessary to detect abnormal reactions of the waste stream, which may require rewetting of the waste.

d. A fill head assembly is placed on the liner/HIC and secured in place as required by vendor and station procedures. The fill head has various connections for; waste container level, waste addition, flush water, vents, TV camera, gross water removal, supply and return for the dewatering drying unit.

e. The proper amount of waste is transferred to the liner/HIC from the Mixing Tank, Waste Demin or Max-Recycle Spent Resin Tanks or from vendor portable processing equipment. A TV camera and monitor are used to monitor waste flow. Upon completion of waste addition, transfer piping and waste hoses are flushed to lower dose rates.

D.15. (cont'd)

f. **IF** the waste container was filled from the Mixing Tank, Waste Demin or Max-Recycle Spent Resin Tanks, sump sludge, tank residue or from vendor portable processing equipment, **THEN** a sample of the waste must be obtained. Samples can be taken from either an in-line sampler, if used during the waste transfer or directly from the waste container.

g. **IF** a waste container is filled with liquid wastes suspected or known to contain biological micro-organisms which could result in gassing upon completion of dewatering, **THEN** the waste can be processed, as required, per the following methods:

(1) Dewatered on site, stored, and monitored for gas generation prior to off-site shipment directly to a disposal facility.

(2) Dewatered on site, then shipped to an off-site vendor liquid LLRW processing facility prior to final disposal to verify absence of gassing or for chemical treatment and final dewatering, as required.

(3) Chemically treated and dewatered on site.

(4) Chemically treated and free liquid removed on site, then shipped to an off-site vendor liquid LLRW processing facility for additional chemical treatment, if required, and final dewatering.

(5) Shipped as wet waste to an off-site vendor liquid LLRW processing facility for chemical treatment and final dewatering.

h. **IF** waste is to be chemically treated on-site, **THEN** treatment will be conducted in accordance with approved vendor work instructions or procedures.

i. **IF** waste is to be dewatered on-site, **THEN** vendor will remove the free standing liquid from the filled waste container and further dry the waste as required by vendor and station procedures.

D.15.i. (cont'd)

(1) **IF** an off-site vendor liquid LLRW processing facility is to be utilized to chemically treat or dewater waste prior to final disposal, **THEN** free standing liquid can either be left in the container or removed as required to comply with shipping requirements.

(2) **IF** free standing liquid was removed from the waste, **THEN** station personnel will verify from review of vendor processing logs that the vendor removed the liquid in accordance with processing procedures.

j. **IF** waste was dewatered on-site **AND** vendor has met the dewatering acceptance criteria as required by processing vendor procedures, **THEN** station personnel will further verify acceptance of final waste product. Visual observations and reviews of the vendor processing logs are performed by station personnel in accordance with station procedures. **IF** results of visual observations are acceptable, **THEN** visual observations in conjunction with acceptable review of processing logs verifies that the final waste product is acceptable per the vendor's PCP and station procedures. Acceptance criteria of the final waste product assures compliance with on-site storage and burial site free liquid requirements.

k. **IF** any of the PCP or visual observation criteria are **NOT** satisfied, resulting in a defective final waste product, **THEN** shipment of the defective product and further waste dewatering operations shall be suspended until a root cause determination has been identified per NSP-AP-1004 and corrective action taken.

l. **IF** waste was dewatered on-site **AND** acceptance criteria have been met or waste is to be shipped to an off-site vendor liquid LLRW processing facility **AND** the free standing liquid is at the desired level or has been removed as required to comply with shipping requirements, **THEN** fill head is removed from the waste container. Samples from the waste container can be obtained as required by station procedures.

D.15. (cont'd)

m. The liner/HIC closure lid is marked, installed and secured as required by vendor and station procedures.

n. The liner/HIC is surveyed for dose rates and smearable contamination as required by station procedures.

o. **IF** a shipping cask was used for shielding to process in on-site **AND** the waste container is to be shipped in the cask directly to a burial site, or an off-site vendor liquid LLRW processing facility, **THEN** cask is closed and prepared for shipment as required by cask handling and station procedures.

p. **IF** a shipping cask or process shield was used for shielding to process in on-site **AND** the waste container is to be stored on-site in the Interim Radwaste Storage Facility (IRSF), **THEN** cask or process shield is closed, moved to the IRSF and container placed in storage as required by station procedures.

D.16. LIQUID WASTE PROCESS SYSTEM OPERATIONS (UTILIZATION OF OFF-SITE VENDOR SOLIDIFICATION):

a. On-site waste operations to prepare waste for shipment to an off-site processing facility for solidification are normally done with the disposable liner/HIC placed in a shielded shipping cask. Processing in this manner reduces radiation exposure to personnel.

b. The cask and liner/HIC are inspected and set up for use as required by vendor and station procedures.

c. As part of the liner/HIC setup, a thermocouple wire is inserted to provide means to monitor waste temperatures during processing.

d. A fill head assembly is placed on the liner/HIC and secured in place as required by vendor and station procedures. The fill head has various connections for waste container level, waste addition, flush water, vents, TV camera, and gross water removal.

D.16. (cont'd)

e. The proper amount of waste is transferred to the liner/HIC from the Mixing Tank, Waste Demin or Max-Recycle Spent Resin Tanks, or from vendor portable processing equipment. A TV camera and monitor are used to monitor waste flow. Upon completion of waste addition, transfer piping and waste hoses are flushed to lower dose rates.

f. **IF** the waste container was filled from the Mixing Tank, Waste Demin or Max-Recycle Spent Resin Tanks, sump sludge, tank residue, or from vendor portable processing equipment, **THEN** a sample of the waste must be obtained. Samples can be taken from either an in-line sampler, if used during the waste transfer, or directly from the waste container.

g. **IF** the waste container is filled with wastes suspected or known to contain biological micro-organisms which could result in gassing while waste is in transport to an off-site processing facility, **THEN** the waste can be chemically treated on site prior to shipment in accordance with approved vendor work instructions or procedures.

h. Free standing liquid can be either left in the waste container for transport to an off-site processing facility or can be removed prior to shipment, as required, to comply with shipping requirements.

i. **IF** free standing liquid is at the desired level or has been removed, **THEN** the fill head is removed from the waste container. Samples from the waste container can be obtained as required by station procedures.

j. The liner/HIC closure lid is marked, installed, and secured as required by vendor and station procedures.

k. The liner/HIC is surveyed for dose rates and smearable contamination as required by station procedures.

l. The cask is closed and prepared for shipment as required by cask handling and station procedures.

D.17. HIGH INTEGRITY CONTAINER USAGE:

a. HICs are disposable containers which can be utilized to package solidified or dewatered liquid wastes, filter cartridges, DAW, Fuel Pool activated hardware and various other wastes physically and chemically compatible with the HIC. HICs can be utilized in addition to or as an alternate for solidification or encapsulation to provide stability, as required by 10CFR61, burial site license and burial site criteria.

b. Wastes to be packaged in a HIC for on-site storage or burial must be prepared in accordance with station or processing vendor procedures to ensure they do **NOT** contain excess free liquids. The free liquid limit for a filled HIC being sent to burial is determined by the burial site criteria. Station procedures provide various methods for waste preparation, which include; allowing ample time for liquids to drain from cartridge filters, visual inspections for absence of liquid in dry active wastes, mechanical removal of free liquids or use of absorbent material for incidental liquids.

c. Samples, if **NOT** previously obtained, can be obtained from filled HICs as required by station procedures.

d. The liner/HIC closure lid is marked, installed and secured as required by vendor and station procedures.

e. The liner/HIC is surveyed for dose rates and smearable contamination as required by station procedures.

f. **IF** a shipping cask was used for shielding to process in **AND** the waste container is to be shipped in the cask directly to a burial site, **THEN** cask is closed and prepared for shipment as required by cask handling and station procedures.

g. **IF** a shipping cask or process shield was used for shielding to process in **AND** the waste container is to be stored on-site in the IRSF, **THEN** cask or process shield is closed, moved to the IRSF and container placed in storage as required by station procedures.

D.18. MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS:

a. Major changes must be reported in the Monthly Operating Report for the period in which the evaluation was reviewed by the On-site Review Function. The discussion of each change shall contain:

(1) A summary of the evaluations that led to the determination that the change could be made in accordance with 10CFR50.59.

(2) Sufficient detail information to support the reason for the change.

(3) A detailed description of the equipment, components and processes involved and the interfaces with other plant systems.

(4) An evaluation of the change, which shows the predicted quantity of solid waste as compared to previously predicted quantities.

(5) A comparison of the predicted volume of radioactive solid waste to the actual volume for the period in which the changes were made.

(6) An estimate of the exposure to plant personnel as a result of the change.

(7) Documentation that the changes were reviewed and found acceptable by the On-site Review Function.

b. The changes shall become effective upon review and acceptance by the On-site Review Function.

E. ATTACHMENTS

None.

F. REFERENCES

F.1. Technical Specifications:

a. TS Section 1.0, Definitions.

b. TS Section 6.8.A.5, Procedures and Programs.

c. TS Section 6.9.A.4, Radioactive Effluent Release Report.

d. TS Section 6.13, Process Control Program.

F.2. **P&IDs:**

a. M-59, sheets 1 and 2, Diagram of Maximum Recycle Radioactive Waste Solidification System Piping.

b. M-53, sheets 1 and 2, Diagram of Radioactive Waste Disposal Piping.

F.3. **Drawings:**

None.

F.4. **Manuals:**

a. Commonwealth Edison Quality Assurance Manual.

F.5. **Procedures:**

a. NSWP-A-04, 10CFR50.59 Safety Evaluation Process.

b. NSP-AP-1004, Corrective Action Program Process.

c. QCAP 1000-01, On-site Review and Investigative Function.

d. QCAP 1100-15, Review and Acceptance of Contractors' and Subcontractors' Procedures.

e. QOP and QCOP 2000 Series, Radwaste Operating Procedures.

f. QCRP 5600 Series, Radiation Protection Procedures.

g. Vendor Procedures.

F.6. **UFSAR:**

a. UFSAR Section 11.0, Radioactive Waste Management.

F.7. **Commitments:**

None.

F.8. **Others:**

a. 10CFR Part 20, Appendix F and Appendix G, Transfer for Disposal and Manifests.

b. 10CFR Part 61, Licensing Requirements for the Land Disposal of Radioactive Waste.

F.8. (cont'd)

c. NRC Branch Technical Position on Waste Form.

d. 10CFR Part 71, Packaging and Transportation of Radioactive Material.

e. 49CFR Part 173, General Requirements for Shipments and Packaging.

f. Commonwealth Edison Program for Implementation of 10CFR Part 61 and 10CFR Part 20.311 Dated December 22, 1983.

g. NUREG 0133, Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants - October 1978.

h. Chem-Nuclear Systems Radioactive Material License DHEC-097.

i. Chem-Nuclear Systems, Barnwell Site Disposal Criteria, S20-AD-010.

j. QCPWG (Procedure Writers Guide) Vol. 3.

k. Chem-Nuclear Consolidation Facility Radioactive Material Acceptance Criteria, DF-AD-009.

Solid Radwaste Annual Quantities for NRC Reg. Guide 1.21 Report

*** Solid Waste Disposition Summary ***
During Period From 01/01/98 through 12/31/98

(1) Annual total quantity of solid radwaste - 1.79E+03 cubic meters

Annual total radioactivity of solid waste - 1.47E+04 Ci

(2) Obtain an estimate of major radionuclide composition of solid waste:

Mn-54	3.28E+05 mCi
Fe-55	8.10E+06 mCi
Ni-59	2.83E+03 mCi
Fe-59	1.18E+04 mCi
Co-60	5.60E+06 mCi
Ni-63	6.05E+05 mCi
Cs-137	6.61E+04 mCi

(3) Disposition of solid waste shipments

a) Shipments to Barnwell SC - 26
b) Shipments to Memphis TN - 7
c) Shipments to Oak Ridge TN - 20

(4) Disposition of irradiated fuel shipments

None

Submitted By: _____

Reviewed By: _____

Attachment D
Solid Waste Disposition Summary
SVP-99-064

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

January-March 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2158
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05		.05						
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.56	.42	.37	.61	.56	.51	.56	.51	.70	.19	.56	.70	.75	.89	1.08	.80	9.78				9.78				
3 SS	.57	.86	.71	.67	.86	.67	.71	.95	.86	.24	.43	.48	.76	.95	1.57	.86	12.14					12.14			
MS	.19	.33	.28	.33	.98	.23	.33	.42	.42	.14	.09	.09	.05	.09	.33	.05	4.36						4.36		
ES	.05	.05	.05	.05	.44	.24	.10	.00	.05	.05	.00	.00	.05	.00	.00	.00	1.11							1.11	
																									27.43
EU	.00	.00	.00	.00	.00	.00	.00	.00	.37	.19	.19	.09	.14	.14	.23	.05	1.39	1.39							
MU	.05	.00	.00	.00	.00	.00	.00	.00	.00	.05	.09	.00	.05	.05	.19	.05	.51		.51						
4 SU	.05	.09	.14	.00	.00	.00	.00	.09	.14	.05	.00	.00	.23	.09	.32	.14	1.34			1.34					
- N	1.71	1.25	.83	1.34	2.36	1.58	.33	1.34	.60	.65	.70	.60	3.20	1.95	2.36	1.30	22.66				22.66				
7 SS	.93	.74	.74	1.25	.79	.97	1.30	1.20	.79	1.39	.93	.42	1.11	1.48	.88	.74	15.66					15.66			
MS	.00	.00	.00	.00	.14	.42	.09	.32	.19	.19	.05	.00	.00	.00	.00	.05	1.44						1.44		
ES	.00	.00	.00	.00	.19	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.32							.32	
																									43.33
EU	.56	.00	.00	.00	.00	.19	.00	.28	.23	.28	.23	.00	.00	.00	.74	.14	2.64	2.64							
MU	.05	.00	.00	.05	.00	.05	.00	.05	.00	.00	.05	.00	.05	.00	.00	.00	.28		.28						
8 SU	.05	.14	.00	.00	.09	.32	.14	.00	.00	.09	.09	.14	.19	.00	.00	.00	1.25			1.25					
- N	.93	1.58	2.09	1.67	1.90	.88	.14	.00	.19	.37	.74	.79	1.62	.56	1.39	.51	15.34				15.34				
1 SS	.46	.46	.23	.09	.42	.32	.70	.19	.32	1.07	.60	.05	.05	.00	.09	.00	5.05					5.05			
2 MS	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05						.05		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									24.61
EU	.00	.09	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.23	.23							
1 MU	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.19		.19						
3 SU	.00	.05	.00	.00	.00	.00	.09	.00	.05	.00	.00	.00	.00	.00	.00	.05	.23			.23					
- N	.70	.70	.70	.42	.00	.00	.19	.00	.05	.23	.00	.00	.09	.05	.28	.00	3.38				3.38				
1 SS	.05	.00	.19	.09	.00	.09	.14	.00	.00	.05	.00	.00	.00	.00	.00	.00	.60					.60			
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									4.63

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

January-March 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
TOT	6.88	6.84	6.33	6.56	8.72	6.66	5.36	5.36	4.95	5.25	4.79	3.36	8.32	6.24	9.51	4.85	100.00	4.26	1.02	2.83	51.16	33.46	5.84	1.44	100.00

Wind Direction by Stabil. y

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.56	.09	.00	.00	.00	.19	.00	.28	.60	.51	.42	.09	.14	.14	.97	.28	4.26	Extremely Unstable
.09	.09	.00	.05	.00	.05	.00	.05	.00	.05	.19	.00	.09	.05	.23	.09	1.02	Moderately Unstable
.09	.28	.14	.00	.09	.32	.23	.09	.19	.14	.09	.14	.42	.09	.32	.19	2.83	Slightly Unstable
3.30	3.94	3.99	4.04	4.32	2.97	1.77	1.86	1.54	1.44	2.00	2.09	5.66	3.44	5.11	2.60	51.16	Neutral
2.01	2.06	1.67	2.10	2.06	2.05	2.85	2.34	1.97	2.74	1.96	.94	1.92	2.44	2.54	1.60	33.46	Slightly Stable
.19	.33	.28	.33	1.12	.70	.42	.75	.61	.33	.14	.09	.05	.09	.33	.09	5.84	Moderately Stable
.05	.05	.05	.05	.62	.38	.10	.00	.05	.05	.00	.00	.05	.00	.00	.00	1.44	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
1.37	1.65	1.42	1.65	2.84	1.66	1.70	1.89	2.03	.61	1.13	1.27	1.61	1.93	2.98	1.70	27.43	0.9 - 3.5 mph
2.73	2.09	1.71	2.59	3.48	3.10	2.27	2.97	2.09	2.50	1.95	1.11	4.73	3.71	3.99	2.32	43.33	3.6 - 7.5 mph
2.04	2.18	2.32	1.81	2.41	1.81	.97	.51	.74	1.81	1.71	.97	1.90	.56	2.22	.65	24.61	7.6 - 12.5 mph
.74	.93	.88	.51	.90	.09	.42	.00	.09	.32	.00	.00	.09	.05	.32	.19	4.63	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

January-March 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2132
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A	N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L	SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
1	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
-	N	.14	.00	.14	.19	.23	.19	.05	.14	.00	.09	.19	.05	.14	.38	.14	.19	2.25			2.25				
3	SS	.10	.05	.05	.15	.15	.15	.10	.00	.10	.05	.00	.05	.00	.10	.15	.10	1.27				1.27			
	MS	.00	.05	.00	.05	.05	.00	.00	.00	.00	.00	.05	.00	.09	.05	.00	.00	.33					.33		
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
																									3.85
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.09	.09						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.09		.09					
4	SU	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.00	.19	.14	.52			.52				
-	N	.70	.84	.66	.42	1.31	.75	.61	.56	.75	.38	.56	1.03	.70	.94	1.59	1.13	12.95				12.95			
7	SS	.23	.23	.14	.09	.42	.28	.52	.23	.33	.14	.28	.33	.14	.09	.42	.38	4.27					4.27		
	MS	.05	.05	.00	.05	.05	.14	.19	.19	.09	.00	.23	.00	.00	.05	.09	.00	1.17						1.17	
	ES	.00	.00	.00	.00	.00	.14	.09	.00	.05	.00	.00	.00	.00	.00	.00	.00	.28							.28
																									19.37
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.14	.14	.09	.09	.00	.14	.14	.05	.80	.80						
	MU	.05	.00	.00	.00	.00	.00	.00	.00	.05	.05	.00	.05	.05	.05	.23	.00	.52		.52					
8	SU	.05	.19	.05	.00	.00	.05	.00	.09	.05	.09	.00	.05	.28	.09	.14	.05	1.17			1.17				
-	N	1.36	.84	1.03	1.17	1.17	.75	.42	1.41	.56	.19	.42	.98	1.78	1.59	1.41	1.17	16.28				16.28			
1	SS	.75	.47	.38	.28	.56	.66	.38	.00	.61	.66	.28	.05	.19	.38	.56	.38	6.57					6.57		
2	MS	.00	.05	.23	.05	.14	.14	.19	.19	.23	.28	.05	.05	.05	.05	.09	.09	1.88						1.88	
	ES	.00	.05	.00	.00	.05	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00	.19							.19
																									27.39
	EU	.23	.00	.00	.00	.00	.00	.00	.23	.28	.23	.05	.00	.00	.00	.52	.14	1.69	1.69						
1	MU	.09	.00	.00	.05	.00	.09	.00	.00	.05	.05	.05	.00	.05	.05	.19	.14	.80		.80					
3	SU	.00	.09	.00	.05	.00	.33	.09	.09	.09	.05	.05	.25	.14	.00	.09	.00	1.13			1.13				
-	N	1.08	1.13	.80	1.64	1.92	.47	.38	.84	.23	.52	.47	.42	1.59	1.36	2.20	1.03	16.09				16.09			
1	SS	.33	.14	.14	.33	.19	.52	.42	1.17	.80	.66	.42	.19	.56	.47	.42	.33	6.71					6.71		
8	MS	.00	.05	.05	.05	.00	.23	.09	.05	.00	.05	.05	.00	.00	.00	.00	.05	.66						.66	
	ES	.00	.00	.00	.00	.00	.14	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.23							.23
																									27.30

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

January-March 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.05	.00	.00	.00	.00	.00	.00	.14	.00	.05	.00	.00	.00	.00	.00	.23	.23							
MU	.05	.14	.00	.00	.00	.09	.00	.00	.00	.00	.05	.05	.09	.00	.00	.00	.47		.47						
SU	.05	.05	.00	.00	.05	.05	.00	.00	.00	.00	.09	.19	.05	.00	.00	.00	.52			.52					
N	.66	1.88	1.41	1.22	.66	.56	.28	.09	.19	.33	.70	.61	.75	.19	.42	.33	10.27				10.27				
SS	.00	.05	.00	.00	.00	.19	.38	.05	.66	2.02	.42	.00	.60	.14	.00	.00	3.89					3.89			
MS	.00	.00	.00	.00	.00	.09	.14	.05	.00	.00	.00	.00	.00	.00	.00	.00	.28						.28		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									15.67
EU	.00	.00	.00	.00	.00	.00	.00	.05	.00	.09	.00	.00	.00	.00	.05	.00	.19	.19							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.05	.09	.00	.00	.00	.00	.05	.09	.28		.28						
SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.09	.05	.23			.23					
N	.33	.66	.75	.47	.00	.00	.56	.05	.42	.56	.60	.00	.28	.05	.23	.19	4.55				4.55				
SS	.00	.00	.00	.00	.00	.14	.14	.09	.28	.42	.09	.00	.00	.00	.00	.00	1.17					1.17			
MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									6.43
TOT	6.34	7.04	5.82	6.24	6.95	6.15	5.07	5.63	6.19	6.90	4.69	4.22	6.99	6.15	9.62	6.01	100.00	3.00	2.16	3.56	62.38	23.87	4.32	.70	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.23	.05	.00	.00	.00	.00	.00	.28	.56	.47	.19	.09	.00	.14	.80	.19	3.00	Extremely Unstable
.19	.14	.00	.05	.00	.19	.00	.00	.14	.19	.09	.09	.19	.09	.56	.23	2.16	Moderately Unstable
.19	.33	.05	.05	.05	.42	.09	.19	.14	.23	.19	.28	.52	.09	.52	.23	3.56	Slightly Unstable
4.27	5.35	4.78	5.11	5.30	2.72	2.30	3.10	2.16	2.06	2.35	3.10	5.25	4.50	6.00	4.03	62.38	Neutral
1.41	.94	.71	.85	1.32	1.93	1.93	1.55	2.77	3.57	1.50	.61	.89	1.18	1.55	1.18	23.87	Slightly Stable
.05	.19	.28	.19	.23	.61	.61	.47	.33	.33	.38	.05	.14	.14	.19	.14	4.32	Moderately Stable
.00	.05	.00	.00	.05	.28	.14	.05	.09	.05	.00	.00	.00	.00	.00	.00	.70	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	CALM
.24	.10	.19	.38	.43	.33	.14	.14	.10	.14	.23	.10	.23	.52	.29	.29	3.85	0.9 - 3.5 mph
1.08	1.13	.80	.56	1.78	1.31	1.41	.98	1.22	.52	1.13	1.36	.89	1.08	2.49	1.64	19.37	3.6 - 7.5 mph
2.20	1.59	1.69	1.50	1.92	1.59	.98	1.74	1.69	1.41	.84	1.27	2.35	2.30	2.58	1.74	27.39	7.6 - 12.5 mph
1.74	1.41	.98	2.11	2.11	1.78	1.03	2.39	1.45	1.22	1.08	.66	2.35	1.88	3.42	1.69	27.30	12.6 - 18.5 mph
.75	2.16	1.41	1.22	.70	.98	.80	.19	.98	2.35	1.31	.84	.89	.33	.42	.33	15.67	18.6 - 24.5 mph
.33	.66	.75	.47	.00	.14	.70	.19	.75	1.27	.66	.00	.28	.05	.42	.33	6.43	> 24.5 mph

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

April-June 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2132
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
1 SU	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.09	.00	.09	.00	.05	.28			.28					
- N	.28	.23	.14	.28	.09	.14	.28	.23	.14	.23	.23	.14	.80	.52	.47	.23	4.46				4.46				
3 SS	.66	.61	.47	.75	.52	.33	.52	.71	.75	.47	.57	.80	1.13	1.22	.71	.71	10.93					10.93			
MS	.33	.33	.28	.28	.38	.94	.61	.98	.89	.52	.70	.52	.84	.42	.47	.28	8.77						8.77		
ES	.48	.29	.19	.33	.76	1.28	.67	.67	.29	.14	.24	.48	.33	.57	.38	.33	7.41							7.41	
																									31.85
EU	.19	.38	.09	.19	.00	.05	.14	.47	.38	.84	.47	.33	.75	.80	.42	.38	5.86	5.86							
MU	.09	.19	.23	.09	.09	.19	.05	.05	.14	.05	.19	.14	.28	.23	.19	.23	2.44		2.44						
4 SU	.28	.28	.23	.05	.14	.19	.09	.14	.05	.38	.33	.42	.28	.42	.28	.05	3.61			3.61					
- N	1.69	.89	.94	1.50	1.41	.98	1.17	1.03	.33	1.17	1.22	.84	1.36	1.59	.94	.70	17.78				17.78				
7 SS	.70	.66	1.03	2.06	1.27	1.59	.75	.84	1.27	1.64	1.50	.80	.75	1.17	1.36	1.31	18.71					18.71			
MS	.00	.00	.05	.35	.09	.61	.05	.19	.05	.00	.00	.09	.00	.05	.05	.00	1.27						1.27		
ES	.00	.00	.00	.00	.05	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14							.14	
																									49.81
EU	.05	.09	.33	.14	.09	.00	.14	.23	.14	.28	.09	.00	.23	.28	.19	.05	2.35	2.35							
MU	.05	.05	.05	.05	.23	.00	.05	.05	.00	.00	.05	.09	.23	.05	.14	.05	1.13		1.13						
8 SU	.05	.00	.14	.23	.23	.09	.09	.00	.00	.00	.05	.19	.09	.14	.05	.00	1.36			1.36					
- N	.94	1.27	.80	1.88	1.13	.56	.28	.19	.09	.38	.38	.28	.33	.23	.23	.23	9.19				9.19				
1 SS	.00	.00	.09	.38	.47	.61	.14	.47	.14	.14	.19	.33	.14	.14	.14	.00	3.38					3.38			
2 MS	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05						.05		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									17.45
EU	.00	.00	.00	.14	.00	.05	.00	.05	.14	.00	.00	.00	.00	.00	.00	.00	.38	.38							
1 MU	.00	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09		.09						
3 SU	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05			.05					
- N	.00	.00	.05	.05	.00	.00	.00	.05	.00	.00	.00	.05	.00	.00	.00	.00	.19				.19				
1 SS	.00	.00	.00	.00	.00	.09	.00	.05	.00	.00	.00	.00	.05	.00	.00	.00	.19					.19			
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.89

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

April-June 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
6 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
7 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
TOT	5.78	5.31	5.12	8.54	7.00	7.85	5.03	6.39	4.79	6.24	6.20	5.59	7.61	7.94	6.01	4.60	100.00	8.58	3.66	5.30	31.61	33.21	10.08	7.55	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.23	.47	.42	.47	.09	.09	.28	.75	.66	1.13	.56	.33	.98	1.08	.61	.42	8.58	Extremely Unstable
.14	.23	.28	.19	.38	.19	.09	.09	.14	.05	.23	.23	.52	.28	.33	.28	3.66	Moderately Unstable
.33	.33	.38	.33	.38	.28	.19	.14	.05	.38	.38	.70	.38	.66	.33	.09	5.30	Slightly Unstable
2.91	2.39	1.92	3.71	2.63	1.69	1.74	1.50	.56	1.78	1.83	1.31	2.49	2.35	1.64	1.17	31.61	Neutral
1.36	1.27	1.60	3.19	2.25	2.63	1.41	2.07	2.16	2.25	2.25	1.93	2.07	2.54	2.21	2.02	33.21	Slightly Stable
.33	.33	.33	.33	.47	1.59	.66	1.17	.94	.52	.70	.61	.84	.47	.52	.28	10.08	Moderately Stable
.48	.29	.19	.33	.81	1.38	.67	.67	.29	.14	.24	.48	.33	.57	.38	.33	7.55	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
1.74	1.46	1.08	1.70	1.75	2.69	2.07	2.59	2.07	1.36	1.74	2.03	3.10	2.83	2.02	1.60	31.85	0.9 - 3.5 mph
2.95	2.39	2.58	3.94	3.05	3.71	2.25	2.72	2.20	4.08	3.71	2.63	3.42	4.27	3.24	2.67	49.81	3.6 - 7.5 mph
1.08	1.41	1.41	2.67	2.16	1.31	.70	.94	.38	.80	.75	.89	1.03	.84	.75	.33	17.45	7.6 - 12.5 mph
.00	.05	.05	.23	.05	.14	.00	.14	.14	.00	.00	.05	.05	.00	.00	.00	.89	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

April-June 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2136
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.05	.00	.05	.05	.28			.28					
- N	.14	.09	.09	.05	.00	.00	.00	.00	.00	.05	.09	.09	.09	.00	.09	.09	.89				.89				
3 SS	.05	.00	.00	.05	.09	.05	.00	.00	.00	.00	.00	.00	.00	.05	.09	.14	.51					.51			
MS	.14	.00	.05	.05	.00	.00	.09	.05	.00	.00	.19	.00	.19	.05	.09	.05	.94						.94		
ES	.05	.05	.00	.05	.05	.05	.05	.05	.00	.05	.09	.00	.05	.00	.00	.00	.51							.51	
																									3.14
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.14	.00	.09	.23	.14	.09	.80	.80							
MU	.09	.05	.14	.09	.14	.05	.00	.05	.05	.19	.23	.14	.23	.23	.14	.19	2.01		2.01						
4 SU	.19	.09	.23	.09	.09	.09	.09	.09	.05	.19	.23	.09	.09	.33	.19	.09	2.25			2.25					
- N	.28	.42	.37	.33	.33	.28	.19	.33	.19	.14	.09	.09	.37	.61	.42	.33	4.78				4.78				
7 SS	.42	.28	.28	.33	.28	.14	.00	.33	.14	.09	.09	.09	.14	.14	.47	.28	3.51					3.51			
MS	.14	.14	.09	.05	.19	.14	.00	.00	.05	.00	.00	.05	.19	.09	.09	.19	1.40						1.40		
ES	.00	.05	.09	.05	.00	.14	.28	.14	.05	.05	.05	.14	.05	.00	.00	.05	1.12							1.12	
																									15.87
EU	.14	.33	.05	.14	.00	.00	.23	.28	.05	.56	.23	.33	.28	.61	.28	.37	3.89	3.89							
MU	.05	.37	.28	.14	.05	.05	.19	.05	.09	.23	.05	.23	.09	.42	.14	.05	2.48		2.48						
8 SU	.09	.42	.09	.00	.09	.05	.05	.19	.09	.05	.09	.14	.14	.28	.05	.19	2.01			2.01					
- N	1.12	1.03	.84	.98	1.40	.47	.56	.51	.56	.23	.42	.33	.42	.94	.98	.94	11.75				11.75				
1 SS	.56	.66	.66	.61	.51	.28	.37	.37	.19	.47	.56	.28	.51	.42	.70	.66	7.82					7.82			
2 MS	.23	.28	.09	.09	.09	.14	.37	.28	.33	.33	.19	.19	.19	.19	.28	.05	3.32						3.32		
ES	.09	.00	.00	.09	.05	.05	.14	.23	.09	.00	.09	.05	.19	.05	.00	.00	1.12							1.12	
																									32.40
EU	.00	.00	.09	.05	.05	.00	.00	.14	.33	.47	.00	.19	.28	.33	.33	.05	2.29	2.29							
1 MU	.05	.09	.14	.05	.09	.00	.00	.19	.14	.14	.05	.14	.05	.14	.14	.05	1.45		1.45						
3 SU	.00	.14	.14	.14	.28	.09	.09	.19	.05	.14	.14	.23	.00	.05	.09	.00	1.78			1.78					
- N	.66	.98	.47	1.40	1.45	1.08	.75	.61	.70	.80	.70	.61	.56	.42	.28	.66	12.13				12.13				
1 SS	.28	.19	.51	.94	.51	1.03	.98	.33	1.50	1.36	.66	.37	.51	.51	.61	.37	10.67					10.67			
8 MS	.00	.05	.19	.09	.00	.28	.70	.14	.33	.70	.23	.09	.47	.14	.09	.05	3.56						3.56		
ES	.00	.05	.05	.00	.00	.00	.14	.05	.23	.09	.09	.00	.05	.09	.00	.05	.89							.89	
																									32.77

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

April-June 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.05	.09	.28	.00	.09	.05	.19	.19	.05	.98	.98							
1 MU	.00	.00	.00	.09	.19	.00	.00	.05	.00	.05	.00	.00	.23	.05	.00	.05	.70		.70						
9 SU	.00	.05	.00	.23	.19	.05	.00	.09	.00	.00	.00	.00	.05	.09	.05	.00	.80			.80					
- N	.14	.56	.56	1.08	.42	.75	.56	.09	.28	.84	.23	.33	.42	.19	.51	.14	7.12				7.12				
2 SS	.00	.05	.09	.23	.05	.47	.28	.23	.94	.37	.14	.00	.14	.05	.00	.00	3.04					3.04			
4 MS	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09						.09		
ES	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09							.09	
																									12.83
EU	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.09	.09							
6 MU	.00	.05	.00	.09	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.28		.28						
T SU	.00	.00	.00	.09	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05	.00	.19			.19					
N	.00	.00	.00	.05	.05	.33	.14	.37	.42	.00	.05	.05	.05	.00	.00	.00	1.50				1.50				
2 SS	.00	.00	.00	.00	.00	.00	.00	.47	.28	.14	.00	.00	.05	.00	.00	.00	.94					.94			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									3.00
TOT	4.92	6.46	5.62	7.77	6.65	6.09	6.46	5.95	7.26	8.10	5.15	4.49	6.27	6.93	6.65	5.24	100.00	8.05	6.93	7.30	38.16	26.50	9.32	3.75	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.14	.33	.14	.23	.05	.00	.23	.47	.47	1.40	.37	.61	.70	1.40	.94	.56	8.05	Extremely Unstable
.19	.56	.56	.47	.47	.14	.19	.33	.28	.61	.33	.51	.61	.[illegible]	.51	.33	6.93	Moderately Unstable
.28	.70	.47	.56	.66	.28	.23	.56	.23	.37	.47	.61	.33	.75	.47	.33	7.30	Slightly Unstable
2.34	3.09	2.34	3.89	3.65	2.90	2.20	1.92	2.15	2.06	1.59	1.50	1.92	2.15	2.29	2.15	38.16	Neutral
1.31	1.17	1.54	2.15	1.45	1.97	1.64	1.73	3.04	2.43	1.45	.75	1.36	1.17	1.87	1.45	26.50	Slightly Stable
.51	.47	.42	.28	.28	.56	1.26	.47	.70	1.03	.61	.33	1.03	.47	.56	.33	9.32	Moderately Stable
.14	.14	.14	.19	.09	.23	.70	.47	.37	.19	.33	.19	.33	.14	.00	.09	3.75	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.37	.14	.14	.19	.14	.09	.14	.09	.00	.09	.37	.23	.37	.09	.33	.33	3.14	0.9 - 3.5 mph
1.12	1.03	1.22	.94	1.03	.84	.56	.94	.51	.75	.84	.61	1.17	1.64	1.45	1.22	15.87	3.6 - 7.5 mph
2.29	3.09	2.01	2.06	2.20	1.03	1.92	1.92	1.40	1.87	1.64	1.54	1.83	2.90	2.43	2.25	32.40	7.6 - 12.5 mph
.98	1.50	1.59	2.67	2.39	2.48	2.67	1.64	3.28	3.70	1.87	1.64	1.92	1.69	1.54	1.22	32.77	12.6 - 18.5 mph
.14	.66	.66	1.64	.84	1.26	1.03	.51	1.31	1.54	.37	.42	.89	.56	.75	.23	12.83	18.6 - 24.5 mph
.00	.05	.00	.28	.05	.37	.14	.84	.75	.14	.05	.05	.09	.05	.14	.00	3.00	> 24.5 mph

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

July-September 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2184
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05							.05	
																									.05
EU	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.00	.05	.00	.18	.05	.00	.37	.37							
MU	.00	.05	.00	.00	.05	.00	.05	.00	.05	.00	.00	.14	.05	.14	.14	.00	.64		.64						
1 SU	.05	.00	.09	.05	.05	.09	.05	.14	.09	.27	.23	.23	.09	.37	.05	.05	1.88			1.88					
- N	.23	.05	.27	.64	.78	.60	.60	.87	.60	.82	1.19	.73	.73	.37	.41	.27	9.16				9.16				
3 SS	.55	.73	1.24	1.79	1.01	.87	1.33	.82	.82	.96	.78	1.37	.78	1.47	1.01	.50	16.03					16.03			
MS	.88	.78	.88	.65	1.34	1.57	.46	1.01	.88	.46	.41	.46	.41	1.94	1.29	.78	14.19						14.19		
ES	.99	.89	.59	.59	2.03	2.12	1.24	1.09	.94	.44	.30	.54	.49	.99	.49	.64	14.38							14.38	
																									56.64
EU	.60	.23	.37	.87	.27	.32	.23	.92	.32	.60	1.14	.92	1.24	1.01	.96	.69	10.67	10.67							
MU	.14	.14	.05	.27	.18	.32	.27	.09	.23	.23	.41	.05	.09	.00	.09	.05	2.61		2.61						
4 SU	.27	.41	.05	.09	.27	.46	.37	.32	.18	.41	.69	.46	.41	.09	.23	.18	4.90			4.90					
- N	.69	.37	.92	.60	1.14	.73	1.14	.87	.37	.60	1.05	.37	.41	.60	.60	.37	10.81				10.81				
7 SS	1.10	.32	.55	.78	.64	.82	.37	.27	.23	.37	1.47	.41	.41	.41	1.60	.92	10.67					10.67			
MS	.09	.05	.14	.05	.00	.18	.00	.00	.00	.09	.05	.00	.00	.09	.05	.05	.82						.82		
ES	.00	.05	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09							.09	
																									40.57
EU	.09	.32	.05	.00	.00	.00	.09	.00	.00	.05	.05	.00	.05	.00	.05	.00	.73	.73							
MU	.00	.00	.09	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.14		.14						
8 SU	.00	.05	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05	.00	.05	.00	.00	.18			.18					
- N	.23	.05	.14	.00	.00	.00	.09	.00	.00	.05	.23	.05	.00	.00	.00	.09	.92				.92				
1 SS	.05	.00	.05	.00	.00	.00	.14	.05	.00	.00	.46	.00	.00	.00	.00	.05	.78					.78			
2 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									2.75
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
3 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
1 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

July-September 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
TOT	5.94	4.47	5.45	6.37	7.76	8.13	6.46	6.50	4.70	5.44	8.50	5.81	5.17	7.69	7.00	4.63	100.00	11.77	3.39	6.96	20.88	27.47	15.02	14.51	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.69	.55	.41	.87	.27	.32	.32	.96	.32	.69	1.19	.96	1.28	1.19	1.05	.69	11.77	Extremely Unstable
.14	.18	.14	.27	.23	.32	.32	.09	.27	.27	.41	.18	.14	.14	.23	.05	3.39	Moderately Unstable
.32	.46	.14	.14	.32	.60	.41	.46	.27	.69	.92	.73	.50	.50	.27	.23	6.96	Slightly Unstable
1.14	.46	1.33	1.24	1.92	1.33	1.83	1.74	.96	1.47	2.47	1.14	1.14	.96	1.01	.73	20.88	Neutral
1.69	1.05	1.83	2.56	1.65	1.69	1.83	1.14	1.05	1.33	2.70	1.79	1.19	1.88	2.61	1.47	27.47	Slightly Stable
.97	.83	1.01	.69	1.34	1.75	46	1.01	.88	.55	.46	.46	.41	2.03	1.34	.83	15.02	Moderately Stable
.99	.94	.59	.59	2.03	2.12	1.28	1.09	.94	.44	.34	.54	.49	.99	.49	.64	14.51	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05	C A L M
2.69	2.50	3.07	3.71	5.24	5.25	3.71	3.98	3.37	3.01	2.91	3.52	2.56	5.44	3.43	2.25	56.64	0.9 - 3.5 mph
2.88	1.56	2.06	2.66	2.52	2.84	2.43	2.47	1.33	2.29	4.81	2.20	2.56	2.20	3.53	2.24	40.57	3.6 - 7.5 mph
.37	.41	.32	.00	.00	.05	.32	.05	.00	.14	.73	.09	.05	.05	.05	.14	2.75	7.6 - 12.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

July-September 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2195
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.05	.00	.05	.05	.00	.00	.00	.05	.09	.00	.09	.05	.41		.41						
1 SU	.00	.00	.00	.00	.00	.09	.00	.05	.05	.09	.14	.05	.05	.00	.00	.00	.50			.50					
- N	.00	.14	.05	.27	.18	.23	.14	.23	.18	.18	.05	.05	.09	.00	.05	.05	1.87				1.87				
3 SS	.09	.00	.00	.09	.00	.14	.14	.00	.05	.05	.05	.00	.00	.00	.05	.00	.64					.64			
MS	.09	.14	.05	.05	.09	.05	.09	.09	.05	.05	.05	.09	.14	.05	.05	.00	1.09						1.09		
ES	.00	.10	.05	.05	.15	.00	.00	.10	.05	.05	.00	.00	.00	.00	.00	.00	.55							.55	
																									5.06
EU	.14	.00	.05	.27	.09	.05	.09	.23	.23	.14	.27	.36	.27	.68	.36	.18	3.42	3.42							
MU	.14	.05	.05	.46	.32	.23	.18	.55	.32	.50	.82	.32	.36	.14	.09	.14	4.65		4.65						
4 SU	.14	.18	.09	.32	.46	.18	.23	.36	.32	.46	.32	.05	.18	.09	.18	.14	3.69			3.69					
- N	.36	.05	.18	.46	.82	.50	.55	.46	.73	.59	.36	.32	.32	.32	.27	.32	6.61				6.61				
7 SS	.23	.32	.36	.59	1.00	.09	.46	.32	.14	.27	.23	.00	.18	.18	.23	.64	5.24					5.24			
MS	.18	.46	.32	.77	.55	.50	.41	.23	.18	.18	.41	.05	.09	.05	.18	.39	4.65						4.65		
ES	.05	.05	.27	.36	.23	.05	.23	.09	.23	.09	.05	.05	.05	.00	.00	.00	1.78							1.78	
																									30.02
EU	.36	.18	.18	.27	.14	.05	.09	.64	.09	.82	.14	.32	.77	.41	.55	.55	5.56	5.56							
MU	.23	.14	.18	.09	.09	.50	.36	.09	.23	.50	.09	.05	.18	.09	.14	.14	3.10		3.10						
8 SU	.32	.23	.23	.09	.14	.14	.23	.09	.05	.23	.09	.09	.14	.18	.05	.00	2.28			2.28					
- N	.36	.55	.55	.77	.87	.50	.50	.82	.59	.59	.55	.32	.46	.41	.77	.55	9.16				9.16				
1 SS	.32	.18	.68	.87	1.59	.87	1.23	.59	.82	1.00	.36	.82	.73	.41	.64	1.00	12.12					12.12			
2 MS	.50	.32	.18	.27	.27	.50	.46	.73	.50	.64	.36	.32	.23	.14	.46	.87	6.74						6.74		
ES	.05	.05	.18	.27	.14	.41	.36	.59	.32	.41	.27	.09	.09	.05	.05	.05	3.37							3.37	
																									42.32
EU	.14	.14	.00	.00	.00	.00	.05	.18	.05	.32	.00	.32	.18	.14	.23	.00	1.73	1.73							
1 MU	.09	.05	.09	.00	.00	.00	.05	.09	.09	.09	.00	.05	.09	.05	.05	.00	.77		.77						
3 SU	.00	.00	.14	.00	.00	.14	.09	.05	.09	.14	.05	.14	.09	.00	.05	.09	1.05			1.05					
- N	.14	.18	.32	.09	.05	.14	.27	.41	.32	.27	.27	.05	.14	.09	.36	.09	3.19				3.19				
1 SS	.82	.36	.36	.32	.09	.73	.46	.36	.32	.59	.50	.46	.32	.18	.50	.96	7.33					7.33			
8 MS	.14	.18	.27	.05	.00	.18	.68	.27	.73	.77	.18	.00	.18	.18	.05	.27	4.15						4.15		
ES	.00	.00	.09	.00	.00	.05	.23	.32	.09	.68	.18	.00	.05	.05	.00	.00	1.73							1.73	
																									19.95

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

July-September 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.00	.00	.05	.00	.00	.00	.14	.14							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.00	.00	.09		.09						
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.09	.00	.00	.00	.00	.00	.14			.14					
- N	.00	.05	.00	.00	.00	.00	.18	.09	.05	.14	.23	.00	.00	.00	.00	.23	.96				.96				
2 SS	.00	.00	.05	.00	.00	.00	.05	.00	.05	.55	.23	.00	.00	.00	.00	.00	.91					.91			
4 MS	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.05						.05		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									2.28
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05	.05							
6 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05		.05						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05			.05					
N	.00	.00	.00	.00	.00	.00	.05	.05	.00	.05	.00	.00	.00	.00	.00	.00	.14				.14				
2 SS	.00	.00	.00	.00	.00	.00	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.09					.09			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.36
TOT	4.87	4.06	4.97	6.79	7.30	6.29	7.93	8.21	6.88	10.71	6.33	4.37	5.56	3.92	5.42	6.38	100.00	10.89	9.07	7.70	21.91	26.33	16.67	7.43	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.64	.32	.23	.55	.23	.09	.23	1.09	.36	1.37	.41	1.00	1.28	1.23	1.14	.73	10.89	Extremely Unstable
.46	.23	.32	.55	.46	.73	.64	.77	.64	1.14	.91	.46	.77	.32	.36	.32	9.07	Moderately Unstable
.46	.41	.46	.41	.59	.55	.55	.55	.50	1.00	.68	.32	.46	.27	.27	.23	7.70	Slightly Unstable
.87	.96	1.09	1.59	1.91	1.37	1.69	2.05	1.87	1.82	1.46	.73	1.00	.82	1.46	1.23	21.91	Neutral
1.46	.87	1.46	1.87	2.69	1.82	2.37	1.28	1.37	2.51	1.37	1.28	1.23	.77	1.41	2.60	26.33	Slightly Stable
.91	1.09	.82	1.14	.91	1.23	1.64	1.37	1.46	1.64	1.00	.46	.64	.41	.73	1.23	16.67	Moderately Stable
.09	.19	.60	.69	.51	.50	.82	1.10	.69	1.23	.50	.14	.18	.09	.05	.05	7.43	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.18	.37	.14	.46	.47	.50	.41	.51	.37	.41	.27	.23	.36	.05	.23	.09	5.06	0.9 - 3.5 mph
1.23	1.09	1.32	3.23	3.46	1.59	2.14	2.23	2.14	2.23	2.46	1.14	1.46	1.46	1.32	1.50	30.02	3.6 - 7.5 mph
2.14	1.64	2.19	2.64	3.23	2.96	3.23	3.55	2.60	4.19	1.87	2.00	2.60	1.69	2.64	3.14	42.32	7.6 - 12.5 mph
1.32	.91	1.28	.46	.14	1.23	1.82	1.69	1.69	2.87	1.18	1.00	1.05	.68	1.23	1.41	19.95	12.6 - 18.5 mph
.00	.05	.05	.00	.00	.00	.23	.18	.09	.77	.55	.00	.09	.05	.00	.23	2.28	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.09	.05	.00	.23	.00	.00	.00	.00	.00	.00	.36	> 24.5 mph

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

October-December 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2207
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05		.05						
1 SU	.00	.00	.00	.05	.05	.09	.00	.05	.09	.00	.09	.00	.05	.00	.00	.00	.45			.45					
- N	.23	.37	.37	.23	.32	.32	.32	.23	.23	.32	.59	.23	.37	.37	1.00	.41	5.89				5.89				
3 SS	.27	.09	.23	.32	.18	.23	.41	.59	50	1.09	1.77	1.54	1.00	.95	.54	.77	10.47					10.47			
MS	.14	.05	.05	.09	.32	.54	.36	.82	.27	.41	.45	.36	.68	.27	.27	.23	5.30						5.30		
ES	.14	.10	.05	.48	1.06	1.39	.67	.62	.62	.29	.14	.10	.34	.53	.48	.10	7.11							7.11	
																									29.27
EU	.09	.18	.14	.00	.00	.00	.05	.50	.45	.91	.91	.32	.72	.45	.45	.27	5.44	5.44							
MU	.05	.09	.05	.00	.00	.00	.09	.18	.09	.05	.18	.14	.23	.09	.18	.05	1.45		1.45						
4 SU	.14	.14	.00	.09	.00	.00	.18	.09	.18	.32	.32	.14	.32	.23	.32	.18	2.63			2.63					
- N	1.22	.36	.68	1.00	.63	1.36	.86	.36	.45	.36	2.17	1.63	1.77	3.08	3.58	1.27	20.80				20.80				
7 SS	.54	.18	.27	.32	.27	.82	1.27	1.45	1.90	1.99	3.08	1.99	2.40	1.54	.86	.50	19.39					19.39			
MS	.05	.00	.00	.00	.09	.68	.27	.18	.14	.23	.00	.05	.23	.00	.00	.00	1.90						1.90		
ES	.00	.00	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09							.09	
																									51.70
EU	.00	.00	.00	.05	.00	.09	.00	.14	.00	.05	.14	.14	.59	.27	.09	.18	1.72	1.72							
MU	.00	.00	.00	.05	.00	.05	.05	.00	.00	.00	.05	.05	.18	.14	.00	.05	.59		.59						
8 SU	.00	.00	.00	.05	.00	.00	.00	.05	.00	.05	.23	.05	.27	.41	.41	.00	1.50			1.50					
- N	.09	.00	.50	.72	.41	.72	.36	.05	.09	.36	.36	.36	1.13	2.13	1.77	.32	9.38				9.38				
1 SS	.00	.00	.45	.18	.05	.68	.09	.18	.14	1.27	.50	.14	.09	.09	.09	.00	3.94					3.94			
2 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									17.13
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
3 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09			.09					
- N	.00	.00	.00	.50	.00	.05	.00	.00	.00	.00	.00	.00	.27	.00	.05	.09	.95				.95				
1 SS	.00	.00	.00	.05	.00	.05	.00	.00	.05	.00	.05	.00	.00	.00	.00	.00	.18					.18			
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									1.22

ComEd QUAD CITIES STATION
33 ft. WIND SPEED and WIND DIRECTION

October-December 1998
196-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.36	.23	.09	.00	.00	.00	.68				.68				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.68
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
TOT	2.96	1.55	2.77	4.15	3.42	7.11	5.03	5.47	5.20	7.68	11.39	7.44	10.72	10.55	10.09	4.49	100.00	7.16	2.08	4.67	37.70	33.98	7.20	7.20	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.09	.18	.14	.05	.00	.09	.05	.63	.45	.95	1.04	.45	1.31	.72	.54	.45	7.16	Extremely Unstable
.05	.09	.05	.05	.00	.05	.18	.18	.09	.05	.23	.18	.41	.23	.18	.09	2.08	Moderately Unstable
.14	.14	.00	.18	.05	.09	.18	.18	.27	.36	.63	.18	.63	.63	.72	.27	4.67	Slightly Unstable
1.54	.73	1.54	2.45	1.36	2.45	1.54	.64	.77	1.04	3.49	2.45	3.63	5.58	6.40	2.09	37.70	Neutral
.82	.27	.95	.86	.50	1.77	1.77	2.22	2.58	4.35	5.39	3.67	3.49	2.58	1.50	1.27	33.98	Slightly Stable
.18	.05	.05	.09	.41	1.22	.63	1.00	.41	.63	.45	.41	.91	.27	.27	.23	7.20	Moderately Stable
.14	.10	.05	.48	1.10	1.44	.67	.62	.62	.29	.14	.10	.34	.53	.48	.10	7.20	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.78	.60	.69	1.16	1.92	2.57	1.81	2.30	1.71	2.10	3.05	2.23	2.42	2.12	2.30	1.50	29.27	0.9 - 3.5 mph
2.08	.95	1.13	1.40	1.04	2.90	2.72	2.76	3.22	3.85	6.66	4.26	5.66	5.39	5.39	2.27	51.70	3.6 - 7.5 mph
.09	.00	.95	1.04	.45	1.54	.50	.41	.23	1.72	1.27	.72	2.27	3.04	2.36	.54	17.13	7.6 - 12.5 mph
.00	.00	.00	.54	.00	.09	.00	.00	.05	.00	.05	.00	.27	.00	.05	.18	1.22	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.36	.23	.09	.00	.00	.00	.68	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

October-December 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2193
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
1 SU	.00	.00	.00	.00	.00	.00	.05	.00	.05	.00	.00	.00	.00	.09	.00	.00	.18			.18					
- N	.00	.05	.10	.00	.10	.14	.05	.00	.00	.00	.10	.05	.10	.10	.10	.00	.87				.87				
3 SS	.05	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.05	.00	.00	.00	.09	.27					.27			
MS	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05						.05		
ES	.00	.05	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.27							.27	
																									1.64
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.09	.09							
MU	.05	.23	.05	.00	.00	.00	.00	.05	.00	.09	.05	.09	.05	.18	.00	.00	.82		.82						
4 SU	.18	.09	.00	.00	.00	.14	.05	.09	.14	.18	.18	.09	.00	.09	.00	.05	1.28			1.28					
- N	.55	.27	.59	.23	.32	.41	.36	.23	.18	.36	.32	.18	.27	.41	.87	.64	6.20				6.20				
7 SS	.14	.14	.00	.09	.27	.09	.09	.09	.00	.14	.18	.09	.05	.05	.14	.09	1.64					1.64			
MS	.00	.05	.18	.09	.14	.00	.00	.00	.05	.00	.09	.09	.05	.05	.05	.00	.82						.82		
ES	.00	.00	.05	.18	.09	.05	.00	.00	.09	.09	.32	.14	.05	.00	.09	.05	1.19							1.19	
																									12.04
EU	.00	.00	.00	.00	.00	.00	.05	.27	.23	.41	.09	.05	.14	.09	.32	.09	1.73	1.73							
MU	.05	.05	.05	.00	.00	.00	.09	.27	.14	.46	.41	.36	.18	.09	.00	.05	2.19		2.19						
8 SU	.00	.14	.00	.00	.00	.00	.14	.05	.18	.14	.27	.09	.27	.23	.27	.05	1.82			1.82					
- N	.91	.23	.55	.36	.32	.64	.46	.18	.64	.36	.87	.82	.87	1.50	1.73	1.41	11.86				11.86				
1 SS	.23	.32	.09	.09	.09	.09	.09	.55	.23	1.14	.91	.46	.41	.36	.78	.73	6.57					6.57			
2 MS	.36	.14	.23	.09	.05	.14	.14	.27	.27	.91	.27	.00	.05	.00	.00	.05	2.96						2.96		
ES	.00	.09	.27	.00	.00	.00	.23	.14	.14	.14	.23	.05	.09	.23	.09	.05	1.73							1.73	
																									28.86
EU	.00	.00	.00	.00	.00	.00	.00	.05	.27	.18	.00	.00	.09	.36	.09	.09	1.14	1.14							
1 MU	.00	.00	.00	.05	.00	.00	.09	.09	.05	.14	.05	.18	.46	.23	.09	.09	1.50		1.50						
3 SU	.00	.00	.00	.05	.00	.05	.14	.00	.05	.05	.14	.18	.55	.18	.36	.00	1.73			1.73					
- N	.14	.23	.64	1.05	.59	1.19	.78	.32	.41	1.14	1.14	1.00	1.09	2.69	2.96	.46	15.82				15.82				
1 SS	.14	.64	.09	.00	.14	.23	.41	.78	.91	1.46	2.83	1.96	1.50	1.46	.46	.32	12.77					12.77			
8 MS	.14	.00	.00	.00	.00	.27	.36	.36	.09	.96	.59	.05	.36	.78	.05	.00	4.01						4.01		
ES	.09	.14	.00	.00	.00	.09	.18	.27	.05	.68	.00	.00	.00	.05	.00	.00	1.55							1.55	
																									38.53

ComEd QUAD CITIES STATION
296 ft. WIND SPEED and WIND DIRECTION

October-December 1998
296-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.14	.14							
1 MU	.00	.00	.00	.00	.00	.09	.00	.09	.00	.00	.09	.00	.32	.05	.00	.00	.64		.64						
9 SU	.00	.00	.00	.00	.00	.05	.00	.05	.00	.05	.00	.05	.14	.23	.09	.00	.64			.64					
- N	.00	.00	.36	.64	.00	.78	.05	.36	.55	.78	.41	.18	1.00	1.55	1.00	.14	7.80				7.80				
2 SS	.00	.00	.09	.00	.00	.18	.27	.91	.91	1.46	.73	.05	.05	.41	.00	.00	5.06					5.06			
4 MS	.00	.00	.00	.00	.00	.00	.00	.05	.00	.09	.00	.00	.00	.09	.00	.00	.23						.23		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									14.50
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.05	.09	.23			.23					
N	.00	.00	.18	.68	.00	.27	.00	.09	.18	.23	.36	.23	.50	.00	.23	.09	3.06				3.06				
2 SS	.00	.00	.00	.00	.00	.00	.00	.18	.18	.68	.09	.60	.00	.00	.00	.00	1.14					1.14			
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									4.42
TOT	3.01	2.33	3.65	3.60	2.10	4.93	4.06	5.79	6.02	12.40	10.77	6.48	8.02	11.63	9.81	4.79	100.00	3.10	5.15	5.88	45.60	27.45	8.07	4.74	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.00	.00	.00	.00	.00	.05	.05	.32	.50	.59	.09	.05	.23	.50	.41	.32	3.10	Extremely Unstable
.09	.27	.09	.05	.00	.09	.18	.50	.18	.68	.59	.64	1.00	.55	.09	.14	5.15	Moderately Unstable
.18	.23	.00	.05	.00	.23	.36	.18	.41	.50	.59	.41	.96	.82	.78	.18	5.88	Slightly Unstable
1.60	.78	2.42	2.96	1.33	3.43	1.69	1.19	1.96	2.87	3.20	2.46	3.84	6.25	6.89	2.74	45.60	Neutral
.55	.55	.27	.18	.50	.59	.87	2.51	2.28	4.88	4.79	2.60	2.01	2.28	1.37	1.23	27.45	Slightly Stable
.50	.23	.41	.18	.18	.41	.50	.68	.41	1.96	.96	.14	.46	.91	.09	.05	8.07	Moderately Stable
.09	.27	.46	.18	.09	.14	.41	.41	.27	.91	.55	.18	.14	.32	.18	.14	4.74	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.05	.14	.23	.00	.10	.14	.09	.00	.09	.00	.14	.09	.10	.23	.10	.14	1.64	0.9 - 3.5 mph
.91	.78	.87	.59	.82	.68	.50	.46	.46	.87	1.14	.68	.46	.82	1.14	.87	12.04	3.6 - 7.5 mph
1.55	.96	1.19	.55	.46	.87	1.19	1.73	1.82	3.56	3.06	1.82	2.01	2.51	3.19	2.42	28.86	7.6 - 12.5 mph
.50	.46	.73	1.14	.73	1.82	1.96	1.87	1.82	4.61	4.74	3.37	4.06	5.75	4.01	.96	38.53	12.6 - 18.5 mph
.00	.00	.46	.64	.00	1.14	.32	1.46	1.46	2.37	1.23	.27	1.50	2.33	1.09	.23	14.50	18.6 - 24.5 mph
.00	.00	.18	.68	.00	.27	.00	.27	.36	1.00	.46	.23	.50	.00	.27	.19	4.42	> 24.5 mph