From: <eddie.grant@exeloncorp.com>
To: <nvg@nrc.gov>
Date: 12/8/04 7:02AM
Subject: Self identified changes

Nannette - Attached is the letter we discussed earlier providing some EGC self-identified changes needed for the ESP SSAR and the EP documents. A similar letter was submitted previously for the ESP ER. Call me if you have any questions.

Thanks,

Exelon
Early Site Permit Project
Eddie R. Grant
610.765.5001 voice
610.765.5755 fax
850.598.9801 cell

CC: <thomas.mundy@exeloncorp.com>

Mail Envelope Properties (41B6ED4C.734 : 21 : 34612)

Subject: Self identified changes
Creation Date: 12/8/04 6:56AM
From: <eddie.grant@exeloncorp.com>

Created By: eddie.grant@exeloncorp.com

Recipients
nrc.gov
owf4_po.OWFN_DO
NVG (Nanette Gilles)

exeloncorp.com
thomas.mundy CC

Post Office	**Route**
owf4_po.OWFN_DO	nrc.gov

exeloncorp.com

Files	Size	Date & Time
MESSAGE	1266	12/08/04 06:56AM
TEXT.htm	3180	
Blank Bkgrd.gif	145	
2004-12-07 Kray SSAR-EP Corrections.pdf		2618540
Mime.822	3590619	

Options

Expiration Date:	None
Priority:	Standard
Reply Requested:	No
Return Notification:	None
Concealed Subject:	No
Security:	Standard

Exelon Nuclear
200 Exelon Way
KSA3-N
Kennett Square, PA 19348

Telephone 610.765.5610
Fax 610.765.5755
www.exeloncorp.com

Exelon® Nuclear

52.17

December 7, 2004

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Corrections / Clarifications to the Exelon Generation company, LLC (EGC) Early Site Permit (ESP) Application Site Safety Analysis Report and Emergency Plan for the Clinton ESP Site (TAC No. MC1122)

Enclosed are corrections and clarifications being made to the Site Safety Analysis Report and Emergency Plan portions of the EGC ESP Application. These corrections and clarifications have generally come about as a result of internal reviews and EGC's Environmental Report responses to requests for additional information. Please contact Eddie Grant of my staff at 610-765-5001 if you have any questions regarding this submittal.

Sincerely yours,

Marilyn C. Kray
Vice President, Project Development

TPM/erg

cc: U.S. NRC Regional Office (w/ enclosures)
Ms. Nanette V. Gilles (w/ enclosures)

Enclosures

AFFIDAVIT OF MARILYN C. KRAY

State of Pennsylvania

County of Chester

The foregoing document was acknowledged before me, in and for the County and State aforesaid, by Marilyn C. Kray, who is Vice President, Project Development, of Exelon Generation Company, LLC. She has affirmed before me that she is duly authorized to execute and file the foregoing document on behalf of Exelon Generation Company, LLC, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged and affirmed before me this 7th day of December, 2004.

My commission expires Sept. 20, 2008.

Staci L. Sprouse
Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Staci L. Sprouse, Notary Public
Kennett Twp., Chester County
My Commission Expires Sept. 20, 2008
Member, Pennsylvania Association Of Notaries

Corrections / Clarifications to the Site Safety Analysis Report of the EGC ESP

EGC REVISION ID: E1-1

BASIS FOR CHANGE:

The reference was cited incorrectly in the text. The actual reference used was Illinois State Water Survey (ISWS), 2003, not Changnon 1995; Changnon was cited within the Illinois State Water Survey reference.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.3.1.2.1, 4th paragraph, page 2.3-3, from:

The maximum number of hail days in a year for Peoria and Springfield is seven (1927, 1950, 1954) and eight (1975), respectively (Changnon, 1995).

To read:

The maximum number of hail days in a year for Peoria and Springfield is seven (1927, 1950, 1954) and eight (1975), respectively (ISWS, 2003).

2. Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-3, from:

Changnon, S. A. "Temporal Fluctuations of Hail in Illinois." Illinois State Water Survey Misc. Publication 167, pp.19. 1995.

To read (and move to place in correct alphabetical order):

Illinois State Water Survey. "Temporal Fluctuations of Hail in Illinois." Available at: www.sws.uiuc.edu/atmos/statecli/Hail/hail.htm. July 31, 2003.

EGC REVISION ID: E2-1

BASIS FOR CHANGE:

The reference was cited incorrectly in the text. The original Fujita reference was not used; reference document used by the author was taken from the NOAA web site.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.3.1.2.2, 4th paragraph, page 2.3-4, from:*

Based on a statistical analysis of tornado occurrences in the United States over a 70 year period, Fujita (1987) concluded that the indicated increase in tornado occurrences was a result of increased reporting efficiency and confirmation skill, and that F0 and F1 class tornadoes were typically overlooked during the early data collection years.

To read:

Based on a statistical analysis of tornado occurrences in the United States over a 70-year period, Fujita (2003) concluded that the indicated increase in tornado occurrences was a result of increased reporting efficiency and confirmation skill, and that F0 and F1 class tornadoes were typically overlooked during the early data collection years.

2. *Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-4, from:*

Fujita, T.T., US Tornadoes, Part 1, 70 Year Statistics. AMRP. Research Paper 218. Published by University of Chicago, Illinois. 1987

To read (and move to place in correct alphabetical order):

Fujita, T.T. U.S. Tornadoes, Part 1, 70-year Statistics. Satellite and Mesometeorology Research Project (SMRP). Research Paper 218. Published by University of Chicago, Illinois. 1987 in The Fujita Tornado Scale. Available at: http://lwf.ncdc.noaa.gov/oa/satellite/satelliteseye/educational/fujita.html. August 04, 2003.

EGC REVISION ID: E3-1

BASIS FOR CHANGE:

The reference was incorrectly cited. Reference document used by the author was Gaya et al.; Grazulis reference was cited within the Gaya document.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.3.1.2.2, 4th paragraph, page 2.3-4. Note that this text was revised in the response to NRC RAI 2.3.1-9 (R8-9), from:

Additionally, research conducted by Grazulis (1993) concluded that the increase in urbanization over the past 50 years has effectively resulted in an increase in the number of reported tornadoes, if for no other reason than there are more targets destroyed or damaged by a tornado in an urban area than in rural areas.

To read:

Additionally, research conducted by Grazulis (1993a) concluded that the increase in urbanization over the past 50 years has effectively resulted in an increase in the number of reported tornadoes, if for no other reason than there are more targets destroyed or damaged by a tornado in an urban area than in rural areas.

This text is now revised to read:

Additionally, research conducted by Grazulis (Gaya et al., 2003) concluded that the increase in urbanization over the past 50 years has effectively resulted in an increase in the number of reported tornadoes, if for no other reason than there are more targets destroyed or damaged by a tornado in an urban area than in a rural area.

2. Revise SSAR, Chapter 2, Section 2.3.1.2.2, next to last paragraph, page 2.3-7. Note that this text was revised in the response to NRC RAI 2.3.1-9 (R8-9), from:

These parameters are believed to be relatively consistent with expected conditions associated with potential worst-case tornadoes, namely the F4/F5 class of tornadoes.

To read:

These parameters are believed to be relatively consistent with expected conditions associated with potential worst-case tornadoes, namely the F4/F5 class of tornadoes. In addition, a site-specific 300-mph tornado wind speed site characteristic is consistent with a 1993 published analysis of tornadoes (Grazulis, 1993b) from 1680 through 1991 conducted by The Tornado Project headed by Thomas P. Grazulis. This analysis indicates that the maximum wind speed expected at a probability of 10E-6 (i.e., once in 1,000,000 years) at the Clinton site to be between 200 and 220 mph (Figure 23.4 in Grazulis, 1993b). This analysis also indicates the maximum wind speed expected at a probability of 10E-7 (once in 10,000,000 years) at the Clinton site to be between 250 and 300 mph (Figure 23.5 in Grazulis, 1993b). Thus, this data indicates a Clinton site characteristic of 300 mph or less even using a 10E-7 recurrence interval.

This text is now revised from Grazulis 1993b to read:

These parameters are believed to be relatively consistent with expected conditions associated with potential worst-case tornadoes, namely the F4/F5 class of tornadoes. In addition, a site-specific 300-mph tornado wind speed site characteristic is consistent with a 1993 published analysis of tornadoes (Grazulis, 1993) from 1680 through 1991 conducted by The Tornado Project headed by Thomas P. Grazulis. This analysis indicates that the maximum wind speed expected at a probability of 10E-6 (i.e., once in 1,000,000 years) at the Clinton site to be between 200 and 220 mph (Figure 23.4 in Grazulis, 1993). This analysis also indicates the maximum wind speed expected at a probability of 10E-7 (once in 10,000,000 years) at the Clinton site to be between 250 and 300 mph (Figure 23.5 in Grazulis, 1993). Thus, this data indicates a Clinton site characteristic of 300 mph or less even using a 10E-7 recurrence interval.

3. Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-4. The Grazulis 1993 reference was revised in the response to NRC RAI 2.3.1-9 (R8-9), from:

Grazulis, T.P. 110-Year Perspective of Significant Tornadoes. Paper in: The Tornado: Its Structure, Dynamics, Prediction, and Hazards. Geophysical Monograph 79, Published by the American Geophysical Union, Washington, D.C. 1993.

To read:

Grazulis, T.P. 110-Year Perspective of Significant Tornadoes. Paper in: The Tornado: Its Structure, Dynamics, Prediction, and Hazards. Geophysical Monograph 79, Published by the American Geophysical Union, Washington, D.C. 1993a.

The Grazulis 1993a reference is now deleted and the following reference is added in its place:

Gaya, M., C. Ramis, R. Romero, C.A. Doswell III. "Tornadoes in the Balearic Islands (Spain): Meteorological Setting." August 04, 2003.

4. Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-4. The following new reference was added in the response to NRC RAI 2.3.1-9 (R8-9):

Grazulis, Thomas P. Significant Tornadoes: 1680-1991, A Chronology and Analysis of Events. Published by: The Tornado Project, Environmental Films, St. Johnsbury, VT. 1993b.

The Grazulis 1993b reference is now revised to read:

Grazulis, Thomas P. Significant Tornadoes: 1680-1991, A Chronology and Analysis of Events. Published by: The Tornado Project, Environmental Films, St. Johnsbury, VT. 1993.

EGC REVISION ID: E4-1

BASIS FOR CHANGE:

Reference was incorrectly cited. Per the author, the Nuttli 1986 reference was not actually used.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.5.2.3, 3rd paragraph, page 2.5-11, from:*

The PSHA conducted in the EPRI-SOG study characterized earthquake ground motions using three strong ground motion attenuation relationships developed by Nuttli (1986), Boore and Atkinson (1987), and McGuire et al. (1988) combined with the response spectral relationships of Newmark and Hall (1982).

To read:

The PSHA conducted in the EPRI-SOG study characterized earthquake ground motions using three strong ground motion attenuation relationships developed by Boore and Atkinson (1987) and McGuire et al. (1988), combined with the response spectral relationships of Newmark and Hall (1982).

2. *Revise SSAR, Chapter 2, Section 2.5.2.3, 4th paragraph, page 2.5-11, from:*

The recently-developed ground motion attenuation models predict lower levels of low frequency ground motion than does the Nuttli (1986), Newmark and Hall (1982) model based on an improved understanding of the effects of crustal properties on ground motion amplitudes.

To read:

The recently-developed ground motion attenuation models predict lower levels of low frequency ground motion than does the Newmark and Hall (1982) model based on an improved understanding of the effects of crustal properties on ground motion amplitudes.

3. *Delete the following reference in SSAR, Chapter 2, Section 2.5 References, page 2.R-9:*

Nuttli, O. W. "Yield Estimates of Nevada Test Site Explosions Obtained from Seismic Lg Waves." Journal of Geophysical Research, Vol. 91, pp. 2137-2151. 1986.

EGC REVISION ID: E6-1

BASIS FOR CHANGE:

Reference was cited incorrectly. The wind speed design reference was updated to change this reference to ASCE-7-98 (1/1/2000) that replaced the ANSI standard. The ANSI A58.1-1982 reference will be deleted.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 1, Table 1.4-9, item 1.7.2, Definition, page 1.T-16, from:*

Multiplication factors (as defined in ANSI A58.1-1982) applied to basic wind speed to develop the plant design.

To read:

Multiplication factors (as defined in ASCE-7-98, 2000) applied to basic wind speed to develop the plant design.

2. *Revise SSAR, Chapter 1, Section 1.4 References, page 1.R-2, from:*

American National Standards Institute, Inc. (ANSI). "Minimum Design Loads for Buildings and Other Structures." ANSI A58.1-1982. New York, New York. 1982

To read (and move to place in correct alphabetical order):

American Society of Civil Engineers (ASCE). *Minimum Design Loads for Buildings and Other Structures.* ASCE-7-98. March 2000.

EGC REVISION ID: E7-1

BASIS FOR CHANGE:

Reference was cited incorrectly. The actual reference date should be 1992, not 1983.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 1, Table 1.4-9, item 1.4.1, Definition, page 1.T-15, from:*

Design assumption regarding the difference in elevation between finished plant grade and the water level due to the probable maximum flood (defined in ANSI/ANS 2.8-1983) used in the plant design.

To read:

Design assumption regarding the difference in elevation between finished plant grade and the water level due to the probable maximum flood (defined in ANSI/ANS 2.8-1992) used in the plant design.

2. *Revise SSAR, Chapter 1, Section 1.4 References, page 1.R-2, from:*

American National Standards Institute/American Nuclear Society (ANSI/ANS). ANSI/ANS-2.8-1983. "Determining Design Basis Flooding at Power Reactor Sites." American Nuclear Society. La Grange Park, Illinois. 1983.

To read (and move to place in correct alphabetical order):

American National Standards Institute/American Nuclear Society (ANSI/ANS). ANSI/ANS-2.8. "Determining Design Basis Flooding at Power Reactor Sites." American Nuclear Society. La Grange Park, Illinois. 1992.

3. *Revise SSAR, Chapter 2, Section 2.3.1.2.2, 7th paragraph, page 2.3-5, from:*

More recent evaluations have resulted in recommendations for reduced design basis tornado wind conditions. ANSI/ANS 2.3 (ANSI, 1983) recommends a maximum tornado wind speed of 260 mph and a tornado recurrence interval of 1.0E-6 years; however, this standard has not been endorsed by the USNRC.

To read:

More recent evaluations have resulted in recommendations for reduced design basis tornado wind conditions. ANSI/ANS 2.3 (ANSI, 1992) recommends a maximum tornado wind speed of 260 mph and a tornado recurrence interval of 1.0E-6 years; however, this standard has not been endorsed by the USNRC.

4. *Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-3, from:*

American National Standards Institute/American Nuclear Society (ANSI/ANS). ANSI/ANS-2.8. "Determining Design Basis Flooding at Power Reactor Sites." American Nuclear Society. La Grange Park, Illinois. 1983.

To read (and move to place in correct alphabetical order):

American National Standards Institute/American Nuclear Society (ANSI/ANS). ANSI/ANS-2.8. "Determining Design Basis Flooding at Power Reactor Sites." American Nuclear Society. La Grange Park, Illinois. 1992.

EGC REVISION ID: E8-1

BASIS FOR CHANGE:

The date of the reference was cited incorrectly in the text. The actual date of the McGinnis reference is 1966.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Appendix B, Table 2.1-2, Last Movement/Recency, CPS USAR column, page 2.T-6, from:

Pre-Middle Ordovician (McGinnis, 1996)

To read:

Pre-Middle Ordovician (McGinnis, 1966)

EGC REVISION ID: E18-1

BASIS FOR CHANGE:

Reference cited incorrectly in the text. The actual document date is 1940; also the document is titled 'Soil Report No. 67' rather than 'Bulletin 67'.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.4.3.2, page 2.4-7, from:*

The first three types of soils mentioned belong to hydrologic soil group B based on the U.S. Soil Conservation Service soil grouping (UIAES, 1960 and UIAES, 1967).

To read:

The first three types of soils mentioned belong to hydrologic soil group B based on the U.S. Soil Conservation Service soil grouping (UIAES, 1940 and UIAES, 1967).

2. *Revise SSAR, Chapter 2, Section 2.4 References, page 2.R-6, from:*

University of Illinois Agricultural Experiment Station (UIAES). DeWitt County Soils, Bulletin 67. June 1960.

To read (and move to place in correct alphabetical order):

University of Illinois Agricultural Experiment Station (UIAES). DeWitt County Soils, Soil Report No. 67. June 1940.

EGC REVISION ID: E19-1

BASIS FOR CHANGE:

This reference was cited incorrectly. The appropriate style for a complete reference requires that the individuals included in the “et al.” be listed in the reference. Other editorial changes made for consistency.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.4 References, page 2.R-6 from:

Kempton, John P., et al. "Topography, Glacial Drift Stratigraphy, and Hydrogeology." Geological Society of America Special Paper 258. Mahomet Bedrock Valley, East-Central Illinois. 1991.

To read (and move to place in correct alphabetical order):

Kempton, J. P., P.C. Heigold, and K. Cartwright. "Topography, Glacial Drift Stratigraphy, and Hydrogeology." Geological Society of America Special Paper 258. Mahomet Bedrock Valley, East-Central Illinois. 1991.

2. Revise SSAR, Chapter 2, Figure 2.4-17, Source from:

Kempton, 1991

To read:

Kempton et al., 1991

3. Revise SSAR Appendix A, Chapter 8, page A-8-2 from:

Kempton, J.P., W.H. Johnson, P.C. Heigold, and K. Cartwright. Mahomet Bedrock Valley in East-Central Illinois; Topography, Glacial Drift Stratigraphy, and Hydrogeology. RPR 1991-L. 1991.

To read:

Kempton, J. P., P.C. Heigold, and K. Cartwright. "Topography, Glacial Drift Stratigraphy, and Hydrogeology." Geological Society of America Special Paper 258. Mahomet Bedrock Valley, East-Central Illinois. 1991.

EGC REVISION ID: E37-1

BASIS FOR CHANGE:

The reference was cited incorrectly in the text. The actual document date is June 22, 1998.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.5.4.9, 3rd paragraph, page 2.5-27, from:

The graded performance-based approach is compatible with the direction provided by the NRC's Risk-Informed, Performance-Based Regulation guidance (USNRC, 1999; USNRC, 1998) and with developing NRC guidance for the determination of DRS (McGuire, et al., 2001; McGuire, et al., 2002).

To read:

The graded performance-based approach is compatible with the direction provided by the NRC's Risk-informed, Performance-based Regulation guidance (USNRC, 1998; USNRC, 1998a) and with developing NRC guidance for the determination of DRS (McGuire et al., 2001; McGuire et al., 2002).

2. Revise SSAR, Chapter 2, Section 2.5 References, page 2R-10, from:

U.S. Nuclear Regulatory Commission (USNRC). "White Paper on Risk-Informed, Performance-Based Regulation." SECY-98-144, U.S. Nuclear Regulatory Commission, Washington, DC. 1999.

To read (and move to place in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). "White Paper on Risk-informed, Performance-Based Regulation." SECY-98-144. U.S. Nuclear Regulatory Commission. Washington, DC. June 22, 1998a.

3. Revise SSAR, Appendix B, Section 1, page B-1-2/3, from:

The graded performance-based approach is compatible with the direction provided by the USNRC's Risk-informed, Performance-Based Regulation guidance (USNRC, 1998; USNRC, 1999) and with developing USNRC guidance for the determination of DRS (McGuire, et al., 2001; McGuire, et al., 2002).

To read:

The graded performance-based approach is compatible with the direction provided by the USNRC's Risk-informed, Performance-Based Regulation guidance (USNRC, 1998; USNRC, 1998a) and with developing USNRC guidance for the determination of DRS (McGuire et al., 2001; McGuire et al., 2002).

4. Revise SSAR, Appendix B References, page B6-16, from:

U.S. Nuclear Regulatory Commission (USNRC). "White Paper on Risk-Informed, Performance-Based Regulation", SECY-98-144, Washington, DC, 1999.

To read (and move to place in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). "White Paper on Risk-Informed, Performance-Based Regulation." SECY-98-144. Washington, DC. June 22, 1998a.

EGC REVISION ID: E38-1

BASIS FOR CHANGE:

The Westinghouse AP1000 DCD reference used in text was not identified in the Reference listing.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 3, Section 3.3 References, page 3.R-2, to add (in correct alphabetical order):*

Westinghouse. AP1000 Design Control Document. Tier 2 Material. April 2002.

EGC REVISION ID: E39-1

BASIS FOR CHANGE:

Reference date for NUREG-1555 used in the text was incorrect, and the reference was not listed in the Section 3.3 References.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 3, Section 3.3.1, 6th paragraph, first bullet, page 3.3-2, from:

The AP1000 evaluations consider the major DBAs identified in Regulatory Guide 1.183 and NUREG-1555 (USNRC, 2001).

To read:

The AP1000 evaluations consider the major DBAs identified in Regulatory Guide 1.183 and NUREG-1555 (USNRC, 1999).

2. Revise SSAR, Chapter 3, Section 3.3, References, page 3.R-2, to add (in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). "Standard Review Plans for Environmental Reviews of Nuclear Power Plants." NUREG-1555. Office of Nuclear Reactor Regulation. October 1999.

EGC REVISION ID: E40-1

BASIS FOR CHANGE:

The reference was cited incorrectly in the text. The actual document date is 1978. Also corrected a typographical error to add a space after "example."

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Appendix A, Section 5.2.4.2, page A-5-15, from:

Various researchers (for example,Anderson and Stokoe, 1977) have shown that the shear wave velocity measured in the laboratory increases with time - particularly for fine-grained soil.

To read:

Various researchers (for example, Anderson and Stokoe, 1978) have shown that the shear wave velocity measured in the laboratory increases with time - particularly for fine-grained soil.

2. Revise SSAR, Appendix A References, page A-8-2, from:

Anderson, D.G. and K.H. Stokoe, "Shear Modulus: A Time-Dependent Soil Property." Dynamic Geotechnical Testing. American Society for Testing and Materials, STP 654, pp. 66-91. 1977.

To read (and move to place in correct alphabetical order):

Anderson, D.G. and K.H. Stokoe, "Shear Modulus: A Time-Dependent Soil Property." Dynamic Geotechnical Testing. American Society for Testing and Materials, STP 654, pp. 66-91. 1978.

EGC REVISION ID: E41-1

BASIS FOR CHANGE:

The reference to Regulatory Guide 1.109 was cited incorrectly in the text. The actual document date is 1977.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.3.5.1, page 2.3-27, from:*

Estimates of long-term atmospheric dilution factors (Chi/Q) and relative deposition (D/Q) were made using a straight-line Gaussian model, consistent with the requirements of Regulatory Guides 1.111 (USNRC, 1977) and 1.109 (USNRC, 1976).

To read:

Estimates of long-term atmospheric dilution factors (Chi/Q) and relative deposition (D/Q) were made using a straight-line Gaussian model, consistent with the requirements of Regulatory Guides 1.111 (USNRC, 1977) and 1.109 (USNRC, 1977a).

2. *Revise SSAR, Chapter 2, Section 2.3 References, page 2.R-5, from:*

U.S. Nuclear Regulatory Commission (USNRC). Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I. Regulatory Guide 1.109, Revision 1. Office of Nuclear Regulatory Research. March 1976.

To read (and move to place in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I. Regulatory Guide 1.109, Revision 1. Office of Standards Development. October 1977a.

EGC REVISION ID: E42-1

BASIS FOR CHANGE:

The reference to Regulatory Guide 1.113 was cited incorrectly in the text. The actual document date is 1977.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 3, Section 3.1.2.2, page 3.1-3, from:*

This program implements the radiological exposure models described in Regulatory Guides 1.109, Revision 1 (USNRC, 1977a) and 1.113, Revision 1 (USNRC, 1978) for radioactivity releases in liquid effluent.

To read:

This program implements the radiological exposure models described in Regulatory Guides 1.109, Revision 1 (USNRC, 1977a) and 1.113, Revision 1 (USNRC, 1977c) for radioactivity releases in liquid effluent.

2. *Revise SSAR, Chapter 3, Section 3.1 References, page 3.R-1, from:*

U.S. Nuclear Regulatory Commission (USNRC). Estimating Aquatic Dispersion of Effluent from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I. Regulatory Guide 1.113, Revision 1. Office of Standards Development. July 1978.

To read (and move to place in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). Estimating Aquatic Dispersion of Effluent from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I. Regulatory Guide 1.113, Revision 1. Office of Standards Development. April 1977c.

EGC REVISION ID: E52-1

BASIS FOR CHANGE:

Original text in 2nd bullet incorrectly addresses figure revisions; figures do not have a footer. The correct method for updating figures is provided in the 3rd bullet.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 1, Section 1.1.5, second bullet, page 1.1-2, from:

Tables and figures will be revised by indicating the revision number and date in the footer.

To read:

Tables will be revised by indicating the revision number and date in the footer.

EGC REVISION ID: E56-1

BASIS FOR CHANGE:

The reference was incorrectly identified, and is replaced by the correct reference for stilling basin design as identified in CPS USAR Section 2.4.15.1, item 2.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.4.8.1.2, 6th paragraph, page 2.4-14, from:

The horizontal stilling basin is designed on the basis of the U.S. Bureau of Reclamation practices (USDOI, 1973). The tailwater elevations for the l00 yr. flood and the PMF are 660 ft above msl and 678 ft above msl, respectively.

To read:

The horizontal stilling basin is designed on the basis of the U.S. Bureau of Reclamation practices (USDOI, 1964). The tailwater elevations for the l00 yr. flood and the PMF are 660 ft above msl and 678 ft above msl, respectively.

2. Revise SSAR, Chapter 2, Section 2.4 References, page 2.R-7, from:

U.S. Department of Interior (USDOI), Bureau of Reclamation, Design of Small Dams, Second Edition, 1973.

To read (and move to place in correct alphabetical order):

U.S. Department of Interior (USDOI), Bureau of Reclamation, Hydraulic Design of Stilling Basins and Energy Dissipators, Engineering Monograph No. 25, 1964.

EGC REVISION ID: E70-1

BASIS FOR CHANGE:

SSAR Figures 2.4-2, 2.4-10, 2.4-11, 2.4-12, 2.4-14 and 2.4-15 were revised to improve the legibility

EGC ESP APPLICATION REVISIONS:

1. Replace SSAR Chapter 2, Figures 2.4-2, 2.4-10, 2.4-11, 2.4-12, 2.4-14 and 2.4-15 with the revised figures provided in Attachment 1.

EGC REVISION ID: E71-1

BASIS FOR CHANGE:

SSAR Table 3.3-22 column header is incorrectly labeled.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR Chapter 3, Table 3.3-22, column header, from:

2-3 hr

To read:

1-3 hr

EGC REVISION ID: E72-1

BASIS FOR CHANGE:

Water table elevations shown on the Figure 2.4-20 are incorrect (not consistent with the flow arrow). Elevations on figure will be modified by switching the "715" and "725" contour levels.

EGC ESP APPLICATION REVISIONS:

1. *Replace SSAR, Chapter 2, Figure 2.4-20, with the revised figure provided in Attachment 1.*

EGC REVISION ID: E74-1

BASIS FOR CHANGE:

The reference was cited incorrectly. Information was taken from the CPS USAR rather than the original U.S. Army Corps of Engineers document (i.e., Written communication on SPF and PMF for the Illinois River on November 2, 1970).

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.4.3.2, first paragraph, page 2.4-7, from:

From the data furnished by the U.S. Army Corps of Engineers (USACOE, 1970), the initial loss is taken as 1.5 in for the antecedent SPS and zero for the PMP.

To read:

Based on the information provided in the CPS USAR (CPS, 2002), the initial loss is taken as 1.5 in for the antecedent SPS and zero for the PMP.

2. Revise SSAR, Chapter 2, Section 2.4.3.2, second paragraph, page 2.4-7, from:

Based upon the data furnished by the U.S. Army Corps of Engineers (USACOE, 1970), the infiltration rate is assumed to be a constant equal to 0.1 in/hr.

To read:

Based upon the information provided in the CPS USAR (CPS, 2002), the infiltration rate is assumed to be a constant equal to 0.1 in/hr.

3. Revise SSAR Chapter 2, Section 2.4 References, page 2.R-7, to delete:

U.S. Army Corps of Engineers (USACOE). Written Communication on SPF and PMF for the Illinois River. November 2, 1970.

EGC REVISION ID: E75-1

BASIS FOR CHANGE:

The flood frequency estimations for the Rowell gauge were re-examined (based on discussions with the NRC during their site visit and the draft RAIs where they noted discrepancies with the discharge data) resulting in an update of the statistical analysis of the historical discharge data at the Rowell gauge. First, the period of record for the historical data was updated to include Water Years 1979 through 2003. Second, the latitude and longitude of the input to the USGS DOS-based program (Peak FQ) which is the Log Pearson Type III analysis as described in WRC Bulletin 17B was revised to more closely reflect the location of the gauge. Additionally, a note is added to SSAR Figure 2.4-5 (for clarification) which reads: "Note: Based on daily mean discharge values."

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.4.2.1, 3rd and 4th paragraphs, from:

At the gauging station, the mean annual flood for post-dam conditions is 3,600 cfs (recurrence interval of 2.33 years). The maximum post-dam discharge of 7,810 cfs (April of 1994) has a recurrence interval of about 25 years (USGS, 2004).

As a result of the dam the 10 yr recurrence interval flood flow at the Rowell Gauging Station is reduced from 11,400 cfs to 6,200 cfs. The 100 yr recurrence flood flow is reduced from 29,900 cfs to 10,400 cfs (see Table 2.4-4).

To read:

At the gauging station, the mean annual flood for post-dam conditions is 3,300 cfs (recurrence interval of 2.33 years). The maximum post-dam discharge of 7,810 cfs (April of 1994) has a recurrence interval of about 25 years (USGS, 2004).

As a result of the dam, the 10 yr recurrence interval flood flow at the Rowell Gauging Station is reduced from 11,400 cfs to 6,000 cfs. The 100 yr recurrence flood flow is reduced from 29,900 cfs to 9,800 cfs (see Table 2.4-4).

2. Revise SSAR, Chapter 2, Table 2.4-4, to read:

TABLE 2.4-4

Calculated Peak Flood Magnitudes and Frequencies at Rowell Gauging Station and at Dam Site

Recurrence Interval (year)	Pre-dam Magnitude of Flood [a] (cfs)		Post-dam Magnitude of Flood [b] (cfs)	
	Rowell Gage	Clinton Lake Dam	Rowell Gage	Clinton Lake Dam
2.33	4,300	3,800	3,300	2,900
10	11,400	10,100	6,000	5,300
25	17,500	15,500	7,600	6,700
50	23,200	20,500	8,700	7,700
100	29,900	26,400	9,800	8,700

[a] CPS, 1982

[b] USGS, 2004

3. Replace SSAR, Chapter 2, Figure 2.4-5, with the revised figure provided in Attachment 1.

EGC REVISION ID: E98-1

BASIS FOR CHANGE:

The original reference cited in the text (Association of American Railroads, Glaze Storm Loading Summary) could not be located; an alternate reference (Jones et al., 1995) that contained the identical information from AAR, and cited that report was substituted. The text was revised to reflect this change.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 2, Section 2.3.1.2.3, 7th paragraph, page 2.3-8 from:

Strong winds during and after a glaze storm greatly increase the amount of damage to trees and power lines. In studying wind effects on glaze-loaded wires, the Association of American Railroads (AAR, 1955) concluded that maximum wind gusts were not as significant (harmful) a measure of wind damage as were speeds sustained over 5-minute periods (1955).

To read:

Strong winds during and after a glaze storm greatly increase the amount of damage to trees and power lines. Moderate wind speeds (10-24 mph) occurring after glaze storms are most prevalent, although wind speeds of more than 25 mph are not unusual. Observations of 5-minute winds in excess of 40 mph with a glaze thickness of 0.25 in. or more have been reported by Changnon (1969). Table 2.3-5 presents specific glaze thickness data for the five fastest 5-minute speeds and the speeds with the five greatest measured glazed thicknesses for 148 glaze storms throughout the country during the period from 1926-1937. Although these data were collected from various locations throughout the U.S., they are considered applicable design values for locations in Illinois.

2. Revise SSAR, Chapter 2, Section 2.3 References, Page 2.R-3, to remove:

Association of American Railroads. Glaze Storm Loading Summary, 1927-28 to 1936-37. 1955.

EGC REVISION ID: E100-1

BASIS FOR CHANGE:

SSAR text updated to quantify location of ESP intake as 65 feet south of the existing CPS intake structure.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR Ch.2, Section 2.4.8.1, 1st paragraph, page 2.4-13, from:

A new intake structure will be added next to the existing screen house to supply water to the EGC ESP Facility.

To read:

A new intake structure will be added approximately 65 feet from the existing screen house to supply water to the EGC ESP Facility.

2. Revise SSAR Ch.2, Section 2.4.8.1.5, 1st paragraph, page 2.4-16, from:

The makeup water will be supplied from the new intake structure located next to the existing screen house.

To read:

The makeup water will be supplied from the new intake structure located approximately 65 feet from the existing screen house.

3. Revise SSAR Ch.2, Section 2.4.11.5, 1st paragraph, Pg. 2.4-21 from:

The water required for the EGC ESP Facility will be supplied from a new intake structure located next to the existing CPS intake structure.

To read:

The water required for the EGC ESP Facility will be supplied from a new intake structure located approximately 65 feet south of the existing CPS intake structure.

4. Revise SSAR Ch.3, Section 3.2.1.3, 1st paragraph, page 3.2-2, from:

Pumps for makeup water will be located in a new intake structure located next to the existing CPS Facility intake structure.

To read:

Pumps for makeup water will be located in a new intake structure located approximately 65 feet south of the existing CPS Facility intake structure.

5. *Revise SSAR Ch.3, Section 3.2.2.1, 1st paragraph, page 3.2-3, from:*

Pumps for normal ESW makeup water will be located in a new intake structure located next to the existing CPS Facility intake structure.

To read:

Pumps for normal ESW makeup water will be located in a new intake structure located approximately 65 feet south of the existing CPS Facility intake structure.

6. *Revise SSAR Ch.3, Section 3.2.2.3, 1st paragraph, page 3.2-3, from:*

Pumps for makeup water will be located in a new intake structure located next to the existing CPS Facility intake structure.

To read:

Pumps for makeup water will be located in a new intake structure located approximately 65 feet south of the existing CPS Facility intake structure.

EGC REVISION 104-1

BASIS FOR CHANGE:

The 1993 reference date was incorrectly stated in the text. The actual document date is 1988.

EGC ESP APPLICATION REVISIONS:

1. Revise SSAR, Chapter 3, Section 3.3.2, 4th paragraph, page 3.3.4, from:

The CEDE is determined using dose conversion factors in Federal Guidance Report 11 (USEPA, 1993a). The DDE is taken as the same as the effective dose equivalent from external exposure and the dose conversions in Federal Guidance Report 12 (USEPA, 1993b) are applied.

To read:

The CEDE is determined using dose conversion factors in Federal Guidance Report 11 (USEPA, 1988). The DDE is taken as the same as the effective dose equivalent from external exposure and the dose conversions in Federal Guidance Report 12 (USEPA, 1993) are applied.

2. Revise SSAR, Chapter 3, Section 3.3 References, page 3.R-2, from:

U.S. Environmental Protection Agency (USEPA). Federal Guidance Report 11. Limiting Values of Radionuclide Intake and Air concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion. EPA-520/1-88-020. 1993a.

U.S. Environmental Protection Agency (USEPA). Federal Guidance Report 12. *External Exposure to Radionuclides in Air, Water, and Soil.* EPA-402-R-93-081. 1993b.

To read (and move to place in correct alphabetical order):

U.S. Environmental Protection Agency (USEPA). Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion. Federal Guidance Report 11. EPA-520/1-88-020. 1988.

U.S. Environmental Protection Agency (USEPA). Federal Guidance Report 12. *External Exposure to Radionuclides in Air, Water, and Soil.* EPA-402-R-93-081. 1993.

EGC REVISION ID: E105-1

BASIS FOR CHANGE:

Provide an improved reference to "elsewhere in this report."

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.3.2, 2nd paragraph, page 2.3-10, from:*

The specific dates for each of these periods have been described elsewhere in this report.

To read:

The specific dates for each of these periods have been described in Section 2.3.3.

EGC REVISION ID: E106-1

BASIS FOR CHANGE:

Supplement response to RAI 2.3.1-1 (R8-1) to include additional changes identified during ER update.

EGC ESP APPLICATION REVISIONS:

1. *Revise SSAR, Chapter 2, Section 2.3.1.2.2, 4th paragraph, 3rd and 4th sentences, page 2.3-4, from:*

Three of these tornadoes were recorded in DeWitt County during the 54-yr period. For the period of 1950-2002, 11 tornadoes were recorded in DeWitt County and 188 tornadoes recorded in the 5-county area.

To read:

Three of these tornadoes were recorded in DeWitt County during the 54-yr period. For the period of 1950-2003, 18 tornadoes were recorded in DeWitt County and 212 tornadoes recorded in the 5-county area.

2. *Revise SSAR, Chapter 2, Section 2.3.1.2.2, 5th paragraph, last two sentences, page 2.3-5, from:*

The distribution of tornadoes in Illinois by intensity, as shown in Table 2.3-3 during the period of 1950-2002, indicates that there were 43 occurrences of F4 and F5 tornadoes out of a total of 1,716 tornadoes (i.e., 2.51 percent). Applying this percentage to the range of annual tornado probabilities for the site area, the probability of occurrence of a worst tornado is therefore 0.000038 to 0.000078.

To read:

The distribution of tornadoes in Illinois by intensity, as shown in Table 2.3-3 during the period of 1950-2003, indicates that there were 45 occurrences of F4 and F5 tornadoes out of a total of 1,793 tornadoes (i.e., 2.55 percent). Applying this percentage to the range of annual tornado probabilities for the site area, the probability of occurrence of a worst tornado is therefore 0.000038 to 0.000079.

Corrections / Clarifications to the Emergency Plan of the EGC ESP

EGC REVISION ID: E34-1

BASIS FOR CHANGE:

Reference was cited incorrectly in the text. The actual document date is November 1985.

EGC ESP APPLICATION REVISIONS:

1. *Revise EP, Chapter 3, Section 3.4.2, page 3.4-2, from:*

This document also identifies a suitable channel for follow-up communication by ANI after initial notification (ANI, 1981; ANI/MAELU, no date).

To read:

This document also identifies a suitable channel for follow-up communication by ANI after initial notification (ANI, 1981; ANI/MAELU, 1985).

2. *Revise EP, Appendix C References, page C-1, from:*

American Nuclear Insurers (ANI)/Mutual Atomic Energy Liability Underwriters (MAELU). "Emergency Planning." Engineering Inspection Criteria For Nuclear Liability Insurance. Section 6.0, Revision 1. No date.

To read (and move to place in correct alphabetical order):

American Nuclear Insurers (ANI)/Mutual Atomic Energy Liability Underwriters (MAELU). "Emergency Planning." Engineering Inspection Criteria For Nuclear Liability Insurance. Section 6.0, Revision 1. November 1985.

EGC REVISION ID: E35-1

BASIS FOR CHANGE:

Reference was cited incorrectly in the text. The actual date of the reference is April 1997.

EGC ESP APPLICATION REVISIONS:

1. *Revise EP, Chapter 3, Section 3.1.1.1.5, page 3.1-3, from:*

The USEPA assists with field radiological monitoring/sampling and non-plant-related recovery and reentry guidance (FERA, 1996; USDOE, no date).

To read:

The USEPA assists with field radiological monitoring/sampling and non-plant-related recovery and reentry guidance (FERA, 1996; USDOE, 1997).

2. *Revise EP, Chapter 3, Section 3.4.5, page 3.4-3, from*

The USDOE Radiation Emergency Assistance Center/Training Site (REAC/TS) will provide services of medical and health physics support. The REAC/TS will advise on the health physics aspects of situations requiring medical assistance (USDOE, no date).

To read:

The USDOE Radiation Emergency Assistance Center/Training Site (REAC/TS) will provide services of medical and health physics support. The REAC/TS will advise on the health physics aspects of situations requiring medical assistance (USDOE, 1997).

3. *Revise EP, Chapter 16, Section 16.6, page 16.6-1, from:*

Other plans that support this Emergency Plan include the following:

...

o USDOE, Region 5, Radiological Assistance Plan (USDOE, no date).

To read:

Other plans that support this Emergency Plan include the following:

...

o USDOE, Region 5, Radiological Assistance Plan (USDOE, 1997).

4. *Revise EP, Appendix C References, page C-2 , from:*

U.S. Department of Energy (USDOE), Region 5. Radiological Assistance Plan. No date.

To read (and move to place in correct alphabetical order):

U.S. Department of Energy (USDOE), Region 5. Radiological Assistance Plan. April 1997.

EGC REVISION ID: E36-1

BASIS FOR CHANGE:

Reference was cited incorrectly in the text. The actual document date is February 1981.

EGC ESP APPLICATION REVISIONS:

1. Revise EP, Chapter 8, Section 8.1, page 8.1-1, from:

Of particular importance will be the CR, TSC, OSC, EOF, and JPIC (USNRC, 1980 and 1980a).

To read:

Of particular importance will be the CR, TSC, OSC, EOF, and JPIC (USNRC, 1980 and 1981).

2. Revise EP, Appendix C References, page C-3, from:

U.S. Nuclear Regulatory Commission (USNRC). Functional Criteria for Emergency Response Facilities. NUREG-0696. Revision 1. August 1980a.

To read (and move to place in correct alphabetical order):

U.S. Nuclear Regulatory Commission (USNRC). Functional Criteria for Emergency Response Facilities. NUREG-0696. February 1981.

EGC REVISION ID: E76-1

BASIS FOR CHANGE:

The U.S. Census Bureau references were used incorrectly throughout some sections of the EP - namely, Chapter 2, Section 2.3.2.1 and Appendix C. Changes were made in the text to correct these errors.

EGC ESP APPLICATION REVISIONS:

1. Revise EP, Chapter 2, Section 2.3.2.1, from:

Population estimates for permanent and seasonal residents were developed from 2000 U.S. Census Bureau data (U.S. Census Bureau, 2002).

To read:

Population estimates for permanent and seasonal residents were developed from 2000 U.S. Census Bureau data (U.S. Census Bureau, 2001).

2. Revise EP, Appendix C, Page C-2 from:

U.S. Census Bureau. 2000 Census Summary File 1. July 15, 2002.

To read:

U.S. Census Bureau. 2000 Census Summary File 1. 2001.

EGC REVISION ID: E101-1

BASIS FOR CHANGE:

Total population column in Table 2.1-1 has been corrected to reflect the total. In addition, Figure 2.3-2 is also corrected since the data in the figure is taken from Table 2.1-1.

EGC ESP APPLICATION REVISIONS:

Replace EP, Chapter 2, Table 2.1-1, pages 2.T-1 through 2.T-4, with the revised table provided in Attachment 1.

Replace EP, Chapter 2, Figure 2.3-2 with the revised figure provided in Attachment 1.

Documents included in this Attachment:

- E70-1 Figure 2.4-2
- E70-1 Figure 2.4-10
- E70-1 Figure 2.4-11
- E70-1 Figure 2.4-12
- E70-1 Figure 2.4-14
- E70-1 Figure 2.4-15

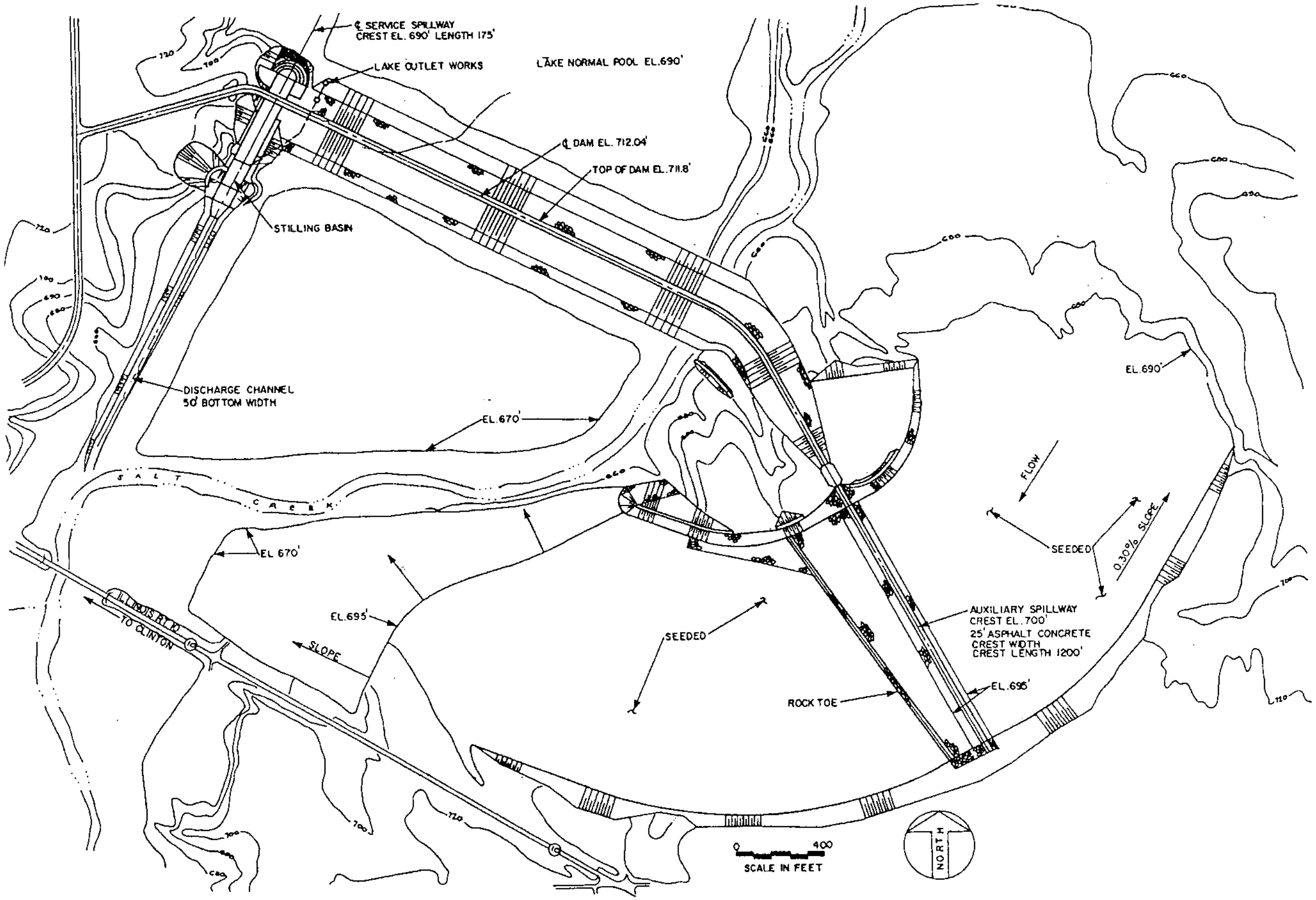
- E72-1 Figure 2.4-20

- E75-1 Figure 2.4-5

- E101-1 Figure 2.3-2
- E101-1 Table 2.1-1

Site Safety Analysis Report for
the EGC Early Site Permit

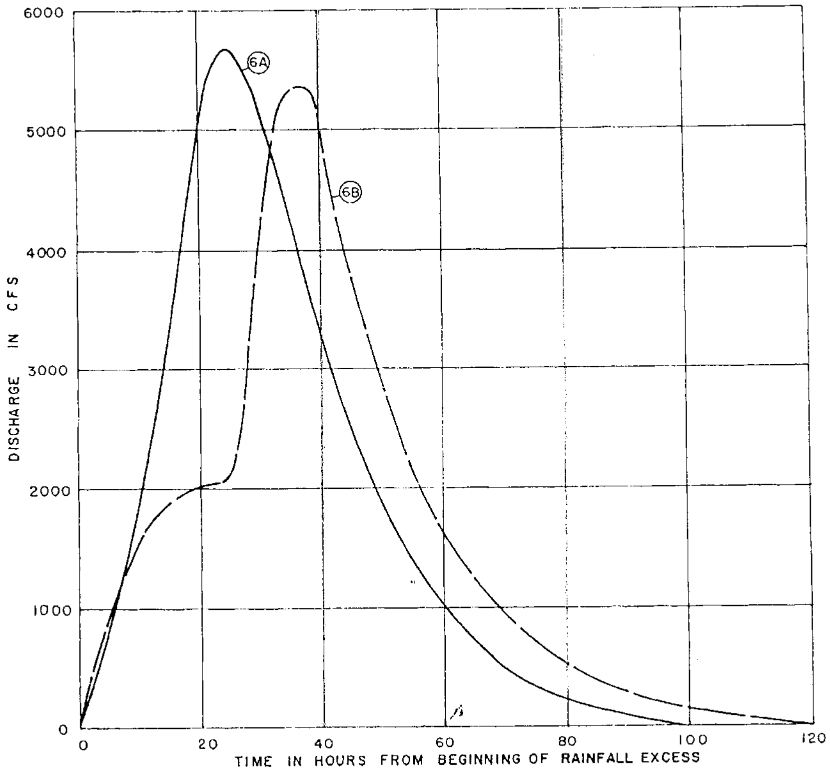
Figure 2.4-2
Plan of Main Dam, Spillways, and Outlet Works



Legend

Data Source
CPS, 1982

Figure 2.4-10
Unit Hydrographs for Salt Creek at Dam Site Under Natural River Conditions



UNIT GRAPH DESIGNATION	UNIT DURATION HOURS	LOCATION	DRAINAGE AREA SQ. MILES	REMARKS
6A	2	DAM SITE	296	DERIVED FROM SYNTHETIC METHOD IN "UNIT HYDROGRAPHS IN ILLINOIS" BY W. D. MITCHELL
6B	2	DAM SITE	296	DERIVED FROM ROWELL STATION UNIT HYDROGRAPH ADJUSTED BY AREA RATIO OF 296/334 (FROM "UNIT HYDROGRAPHS IN ILLINOIS" BY W. D. MITCHELL

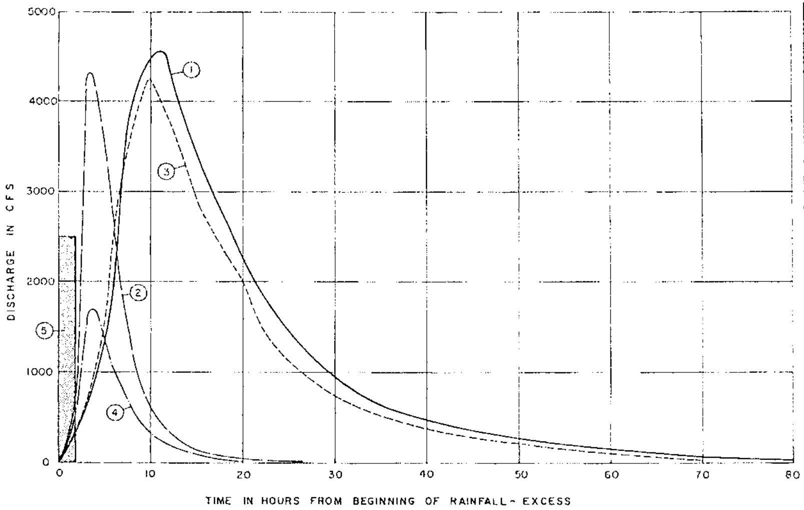
Legend

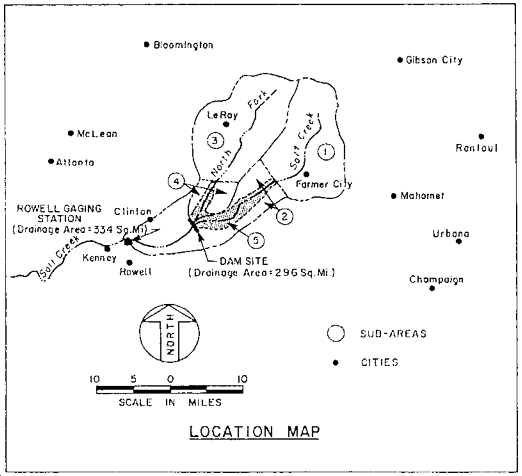
Data Source
CPS, 2002

Not to Scale

Site Safety Analysis Report for the EGC Early Site Permit

Figure 2.4-11 Unit Hydrographs for Sub-Basin Areas





UNIT GRAPH NO.	UNIT DURATION HOURS	AREA REPRESENTED IDENTIFICATION	SQ.MI.	REMARKS
1	2	SUB-AREA 1	126	BASIN ABOVE HEAD OF SALT CREEK FINGER
2	2	SUB-AREA 2	36	LOCAL AREA OF SALT CREEK FINGER
3	2	SUB-AREA 3	111	BASIN ABOVE HEAD OF NORTH FORK FINGER
4	2	SUB-AREA 4	15	LOCAL AREA OF NORTH FORK FINGER
5	2	SUB-AREA 5	8	RESERVOIR SURFACE AREA

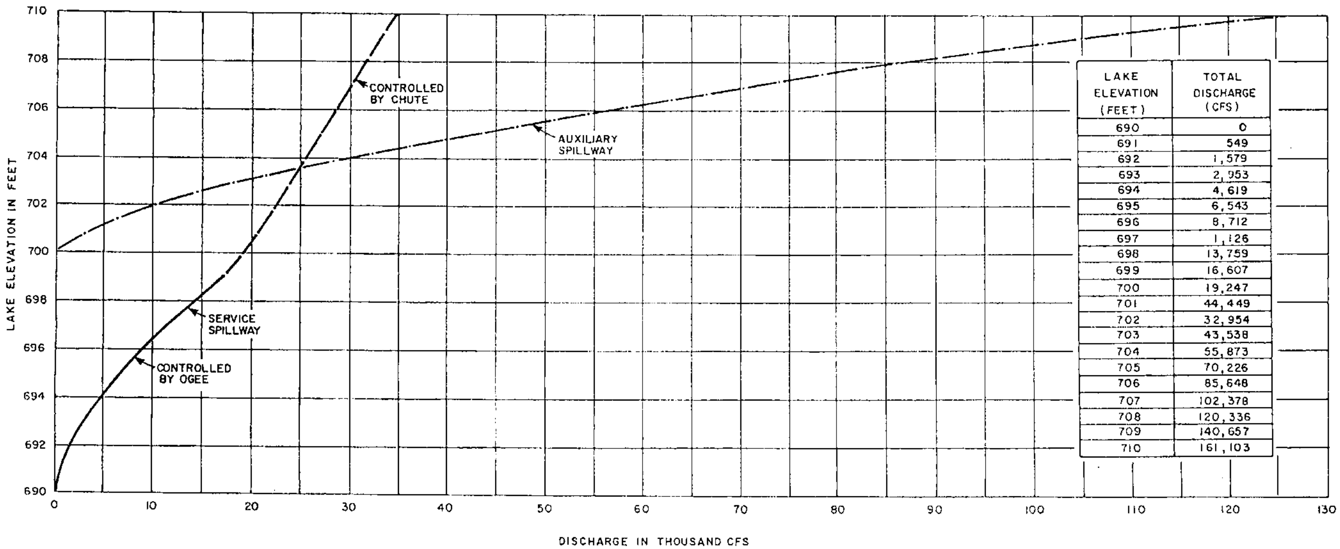
Legend

Data Source
CPS, 2002

N

Not to Scale

Figure 2.4-12
Spillway Rating Curves



LAKE ELEVATION (FEET)	TOTAL DISCHARGE (CFS)
690	0
691	549
692	1,579
693	2,953
694	4,619
695	6,543
696	8,712
697	1,126
698	13,759
699	16,607
700	19,247
701	44,449
702	32,954
703	43,538
704	55,873
705	70,226
706	85,648
707	102,378
708	120,336
709	140,657
710	161,103

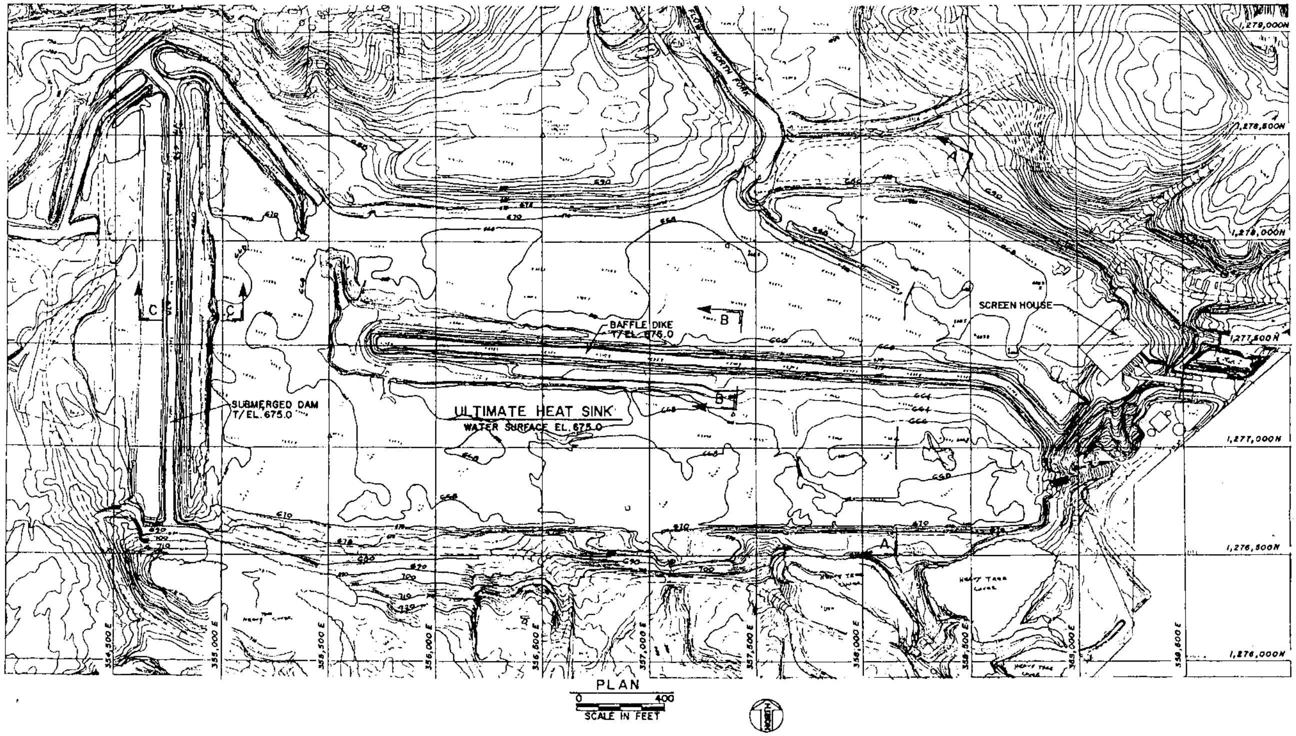
Legend

Data Source
CPS, 2002

Not to Scale

Site Safety Analysis Report for
the EGC Early Site Permit

Figure 2.4-14
CPS Ultimate Heat Sink Plan



Legend

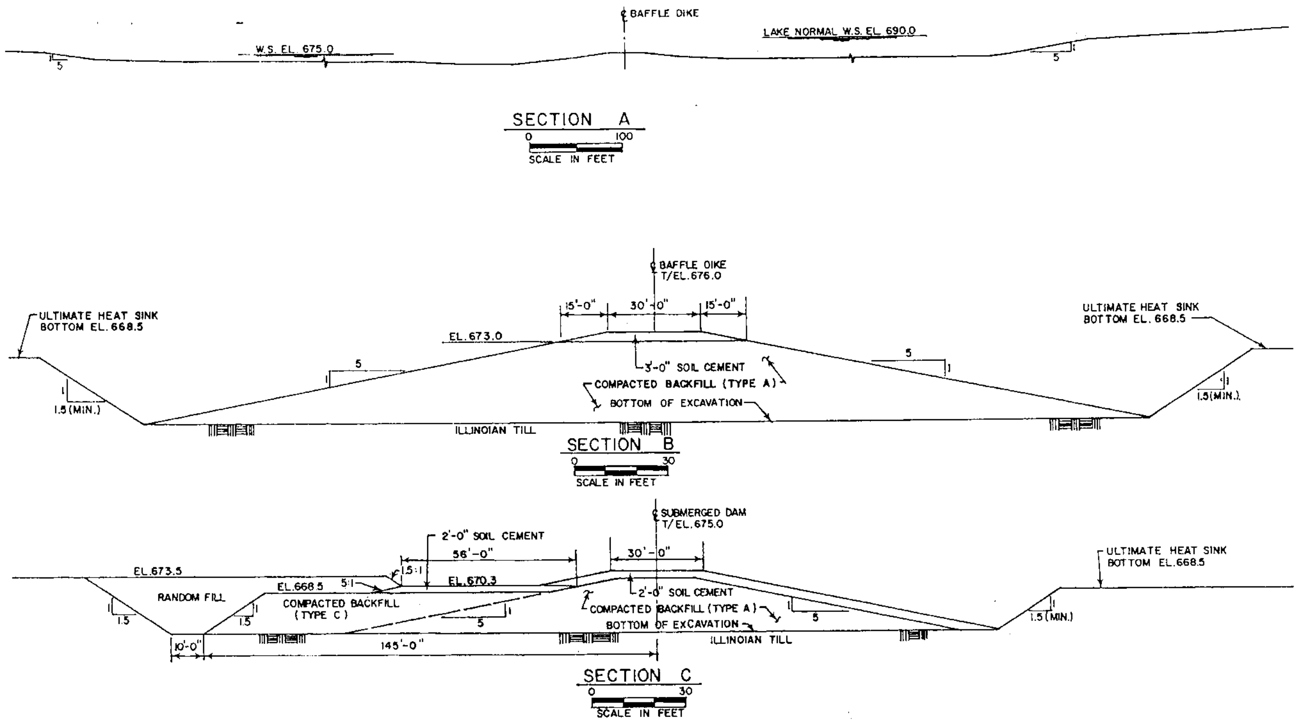
NOTES:
1. Topographic map of ultimate heat sink after construction (Oct. 17, 1977).
2. Refer to Figure 2.4-15 for sections.

Data Source
CPS, 2002

Not to Scale

Site Safety Analysis Report for
the EGC Early Site Permit

Figure 2.4-15
CPS Ultimate Heat Sink Sections



Legend

NOTES:
1. Refer to Figure 2.4-14 for sections.

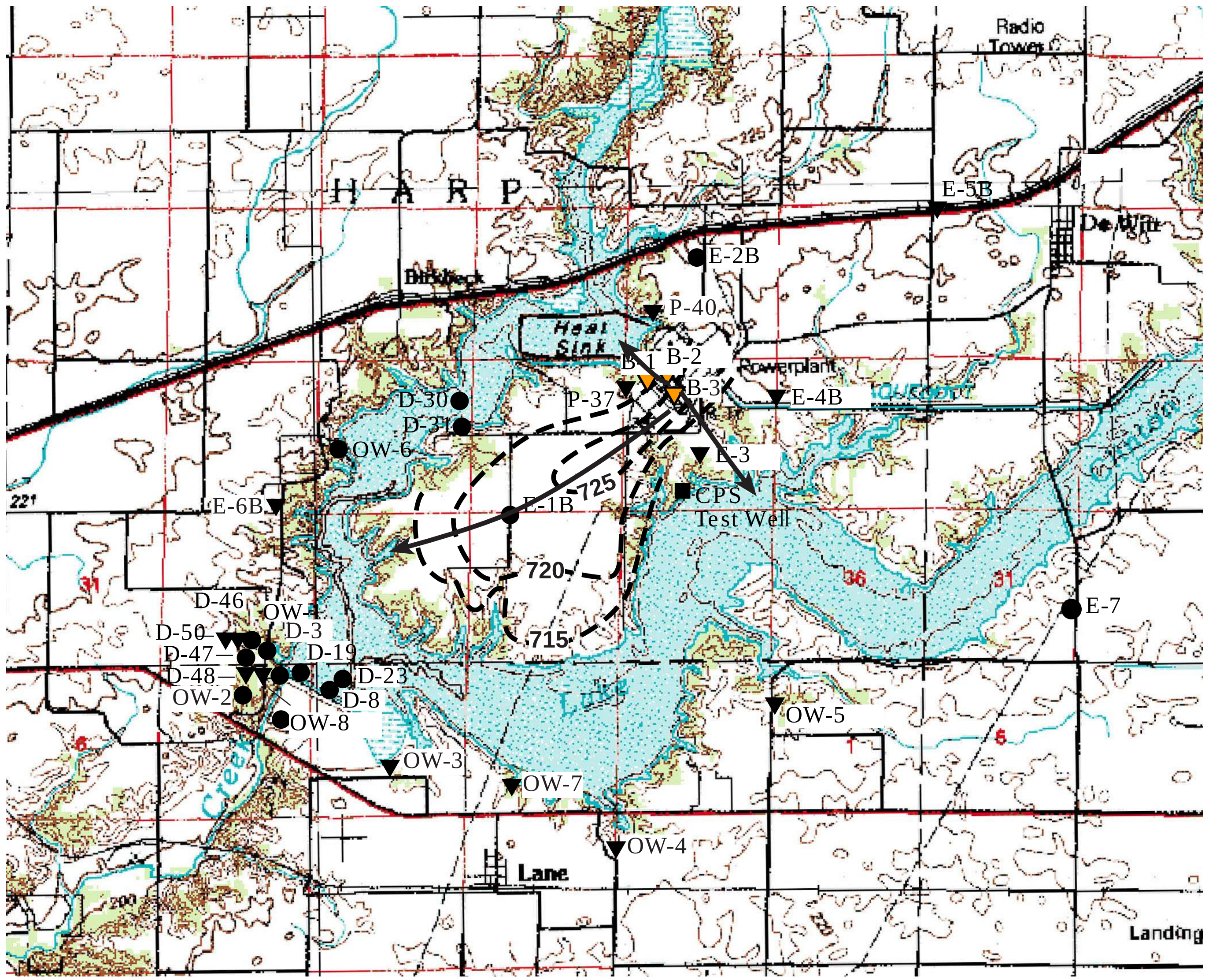
Data Source
CPS, 2002

Not to Scale

Site Safety Analysis Report for
the EGC Early Site Permit

Figure 2.4-20

Location of Piezometers, CPS Test Well, and Water Table in Site Vicinity



Legend

- ■ CPS Test Well
- ▼ Functional Piezometer (As of 12 - 77)
- ● Non-Functional Piezometer (As of 12 - 77)
- Inferred Water Table Contour, Wisconsinan Deposits
- ▽ Piezometer Installed in July/August 2002
- Flow Line

NOTES

1. Datum is mean sea level
2. Piezometer installation data are listed in Table 2.3-15
3. Base map modified from USGS, 15' Series topographic map: Maroa, Ill., 1957

Data Source:
CPS, 2002

N

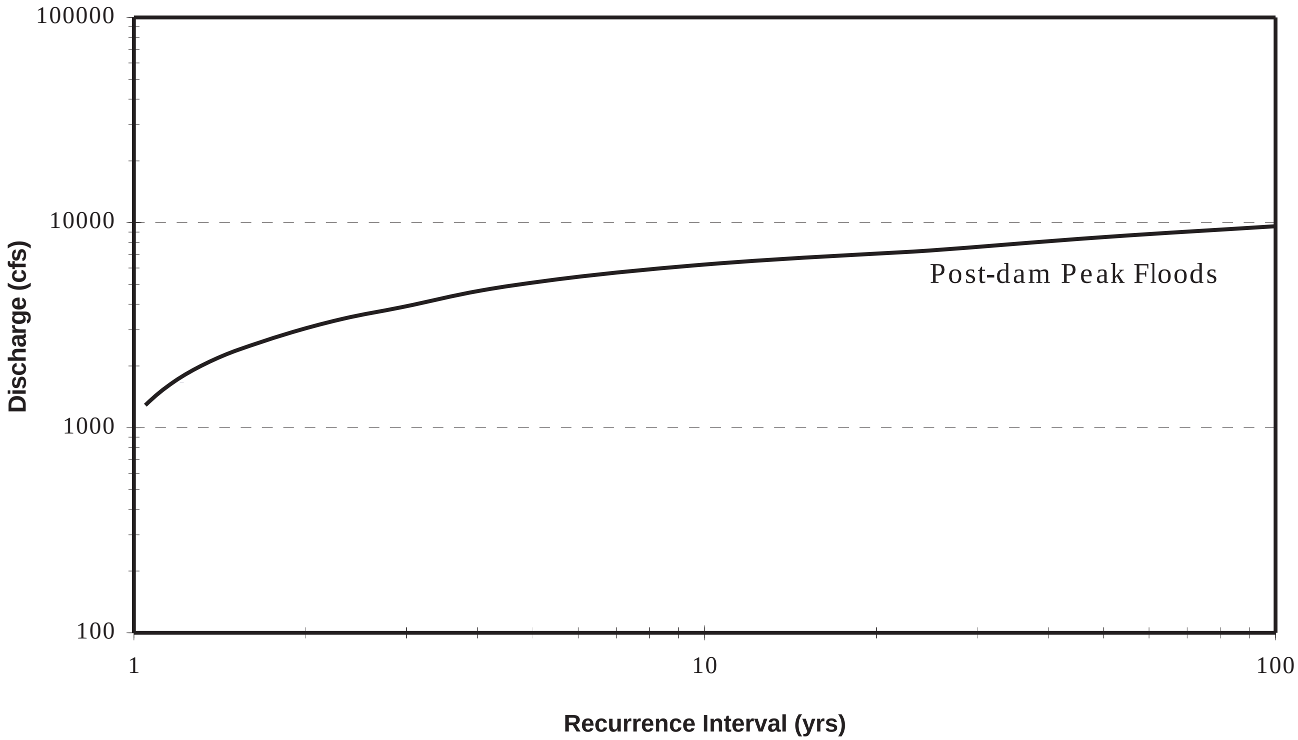
0 1

Scale in Miles

Site Safety Analysis Report for
the EGC Early Site Permit

Figure 2.4-5

Post-dam Peak Flood Magnitudes and Frequencies for Salt Creek at Rowell Gauge Station



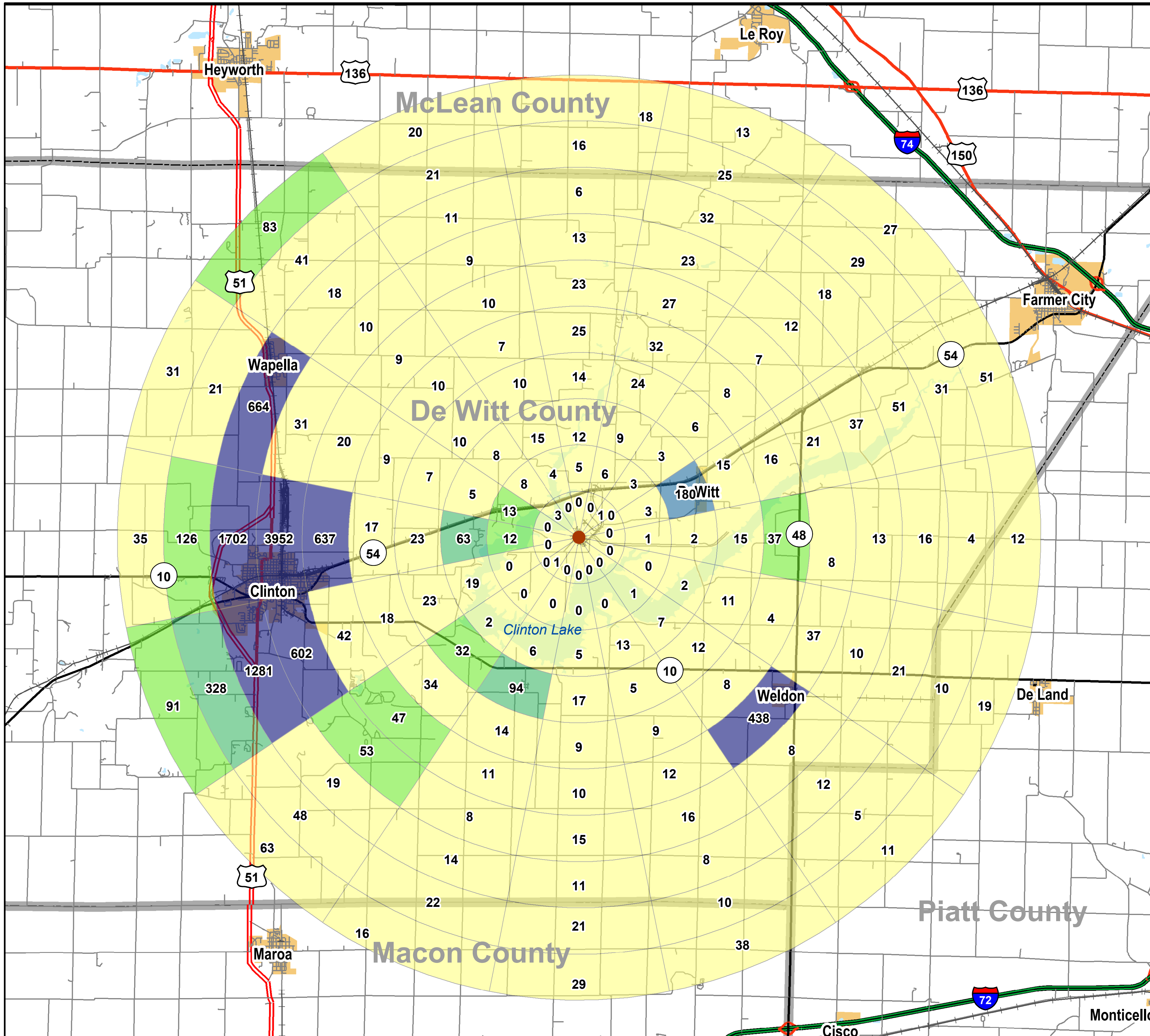
NOTE:
Based on daily mean discharge values.

Data Source:
USGS, 2002

Not to Scale

Emergency Plan for the EGC Early Site Permit

Figure 2.3-2
ESP EPZ Permanent Population by Radial Grid Sector



Legend

- EGC ESP Site
- Interstate, Fully access controlled
- Interchange Ramp
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- County or other minor road
- Railroads
- Water: Lakes and Rivers
- Incorporated/Designated Places
- County Boundary

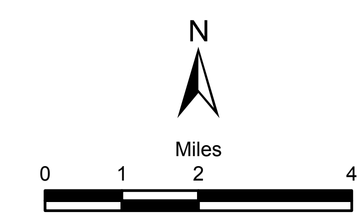
Persons per Sq Mi

- 0 - 20
- 21 - 50
- 51 - 100
- 101 - 200
- > 200

Census 2000 Population shown for each radial grid sector

Note: Census 2000 Population shown for each Radial Grid Sector. Statistics were calculated from BLOCK level census data. If a BLOCK was bisected by a 1-mi band or radial grid line, and parts of the same BLOCK fell in 2 or more sectors, population data were proportioned by percent BLOCK area. This implicitly assumes population is fairly uniform in the BLOCK. Since BLOCK is the smallest Census unit, this assumption was used. This assumption was made in lieu of assigning the entire BLOCK population to a particular grid cell and potentially double-counting some BLOCK level population. Due to rounding, the sum of the population values may not equal the total population within 10-mi as reported in the document.

Data Sources:
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b



Tables

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
11.25	33.75	0	1	0	0
11.25	33.75	1	2	2	6
11.25	33.75	2	3	3	9
11.25	33.75	3	4	13	24
11.25	33.75	4	5	12	32
11.25	33.75	5	6	9	27
11.25	33.75	6	7	7	23
11.25	33.75	7	8	10	32
11.25	33.75	8	9	7	25
11.25	33.75	9	10	8	13
33.75	56.25	0	1	0	1
33.75	56.25	1	2	1	3
33.75	56.25	2	3	1	3
33.75	56.25	3	4	3	6
33.75	56.25	4	5	3	8
33.75	56.25	5	6	3	7
33.75	56.25	6	7	5	12
33.75	56.25	7	8	6	18
33.75	56.25	8	9	9	29
33.75	56.25	9	10	11	27
56.25	78.75	0	1	0	0
56.25	78.75	1	2	1	3
56.25	78.75	2	3	81	180
56.25	78.75	3	4	4	15
56.25	78.75	4	5	7	16
56.25	78.75	5	6	7	21
56.25	78.75	6	7	15	37
56.25	78.75	7	8	15	51
56.25	78.75	8	9	14	31
56.25	78.75	9	10	34	51
78.75	101.25	0	1	0	0
78.75	101.25	1	2	1	1
78.75	101.25	2	3	6	3
78.75	101.25	3	4	9	15
78.75	101.25	4	5	10	37
78.75	101.25	5	6	4	8
78.75	101.25	6	7	5	13
78.75	101.25	7	8	5	16
78.75	101.25	8	9	3	4
78.75	101.25	9	10	6	12
101.25	123.75	0	1	0	0

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
101.25	123.75	1	2	0	0
101.25	123.75	2	3	1	2
101.25	123.75	3	4	7	11
101.25	123.75	4	5	2	4
101.25	123.75	5	6	6	37
101.25	123.75	6	7	4	10
101.25	123.75	7	8	6	21
101.25	123.75	8	9	6	10
101.25	123.75	9	10	7	19
123.75	146.25	0	1	0	0
123.75	146.25	1	2	0	1
123.75	146.25	2	3	2	7
123.75	146.25	3	4	4	12
123.75	146.25	4	5	3	8
123.75	146.25	5	6	210	438
123.75	146.25	6	7	4	8
123.75	146.25	7	8	6	12
123.75	146.25	8	9	2	5
123.75	146.25	9	10	4	11
146.25	168.75	0	1	0	0
146.25	168.75	1	2	0	0
146.25	168.75	2	3	7	13
146.25	168.75	3	4	3	5
146.25	168.75	4	5	4	9
146.25	168.75	5	6	6	12
146.25	168.75	6	7	5	16
146.25	168.75	7	8	3	8
146.25	168.75	8	9	4	10
146.25	168.75	9	10	16	38
168.75	191.25	0	1	0	0
168.75	191.25	1	2	0	0
168.75	191.25	2	3	3	5
168.75	191.25	3	4	6	17
168.75	191.25	4	5	4	9
168.75	191.25	5	6	3	10
168.75	191.25	6	7	5	15
168.75	191.25	7	8	7	11
168.75	191.25	8	9	7	21
168.75	191.25	9	10	11	29
191.25	213.75	0	1	0	0
191.25	213.75	1	2	1	0
191.25	213.75	2	3	1	6
191.25	213.75	3	4	43	94
191.25	213.75	4	5	6	14
191.25	213.75	5	6	6	11
191.25	213.75	6	7	4	8
191.25	213.75	7	8	7	14

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
191.25	213.75	8	9	10	22
191.25	213.75	9	10	7	16
213.75	236.25	0	1	1	1
213.75	236.25	1	2	1	0
213.75	236.25	2	3	1	2
213.75	236.25	3	4	12	32
213.75	236.25	4	5	15	34
213.75	236.25	5	6	17	47
213.75	236.25	6	7	26	53
213.75	236.25	7	8	9	19
213.75	236.25	8	9	13	48
213.75	236.25	9	10	33	63
236.25	258.75	0	1	0	0
236.25	258.75	1	2	1	0
236.25	258.75	2	3	7	19
236.25	258.75	3	4	11	23
236.25	258.75	4	5	8	18
236.25	258.75	5	6	97	42
236.25	258.75	6	7	446	602
236.25	258.75	7	8	677	1,281
236.25	258.75	8	9	148	328
236.25	258.75	9	10	42	91
258.75	281.25	0	1	0	0
258.75	281.25	1	2	5	12
258.75	281.25	2	3	18	63
258.75	281.25	3	4	7	23
258.75	281.25	4	5	6	17
258.75	281.25	5	6	100	637
258.75	281.25	6	7	1,329	3,952
258.75	281.25	7	8	957	1,702
258.75	281.25	8	9	66	126
258.75	281.25	9	10	19	35
281.25	303.75	0	1	1	0
281.25	303.75	1	2	4	13
281.25	303.75	2	3	2	5
281.25	303.75	3	4	3	7
281.25	303.75	4	5	5	9
281.25	303.75	5	6	7	20
281.25	303.75	6	7	11	31
281.25	303.75	7	8	278	664
281.25	303.75	8	9	15	21
281.25	303.75	9	10	11	31
303.75	326.25	0	1	0	3
303.75	326.25	1	2	3	8
303.75	326.25	2	3	4	8
303.75	326.25	3	4	4	10
303.75	326.25	4	5	5	10

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
303.75	326.25	5	6	5	9
303.75	326.25	6	7	4	10
303.75	326.25	7	8	8	18
303.75	326.25	8	9	19	41
303.75	326.25	9	10	36	83
326.25	348.75	0	1	0	0
326.25	348.75	1	2	2	4
326.25	348.75	2	3	6	15
326.25	348.75	3	4	4	10
326.25	348.75	4	5	4	7
326.25	348.75	5	6	6	10
326.25	348.75	6	7	4	9
326.25	348.75	7	8	5	11
326.25	348.75	8	9	8	21
326.25	348.75	9	10	9	20
348.75	11.25	0	1	0	0
348.75	11.25	1	2	2	5
348.75	11.25	2	3	5	12
348.75	11.25	3	4	8	14
348.75	11.25	4	5	14	25
348.75	11.25	5	6	7	23
348.75	11.25	6	7	5	13
348.75	11.25	7	8	4	6
348.75	11.25	8	9	5	16
348.75	11.25	9	10	7	18
				TOTAL	**12,358**

Source: U.S. Census Bureau, 2002

Note: Statistics were calculated from block level census data. If a block was bisected by a 1-mi band or radial grid line and parts of the same block fell in two or more cells, demographic data were proportioned by percent block area. This implicitly assumes population is fairly uniform in the block. Since a block is the smallest census data unit, this assumption was used. This assumption was made in lieu of assigning the entire block population to a particular grid cell and potentially double-counting some block level populations. Due to rounding, the sum of the values in the total population column may not equal the total population within 10 miles.