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52.17

April 12, 2006

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

Early Site Permit (ESP) Application for the Clinton ESP Site
Docket No. 52-007

Subject: Revised Analysis for Probable Maximum Flood (PMF) to Support Revision 4 of the Exelon Early Site Permit Application

Re: Nuclear Regulatory Commission (NRC) Final Safety Evaluation Report (FSER) for the Exelon Early Site Permit (ESP) Application issued February 17, 2006

In a transmittal dated 3/24/06, Exelon provided additional documentation to support the Probable Maximum Flood (PMF) level contained in Revision 3 of the ESP application. Subsequent discussion between the NRC reviewers and Exelon led to a decision to revise the PMF analysis to use a methodology considered to be more appropriate by the NRC. As such, EGC is providing the attached information in support of a revised site characteristic PMF level. This information will be included in Revision 4 of the ESP application that will be submitted to the NRC. Please contact Christopher Kerr of my staff at 610-765-5814 if you have any questions regarding this submittal.

Sincerely yours,

Marilyn C. Kray

Marilyn C. Kray
Vice President, Project Development

D073

CK/erg

cc: U.S. NRC Regional Office (w/ enclosures)
Mr. John P. Segala (w/ enclosures)

Attachment

AFFIDAVIT OF MARILYN KRAY

State of Pennsylvania

County of Chester

The foregoing document was acknowledged before me, in and for the County and State aforesaid, by Marilyn 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 12th day of April, 2006.

My commission expires 10-6-07.

Vivia V. Gallimore

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Vivia V. Gallimore, Notary Public
Kennett Square Boro, Chester County
My Commission Expires Oct. 6, 2007
Member, Pennsylvania Association Of Notaries

Introduction

On February 17, 2006, the Nuclear Regulatory Commission (NRC) issued its Final Safety Evaluation Report (FSER). On March 24, 2006, the applicant, EGC, submitted comments on the NRC staff technical evaluation. The EGC comments focused on the probable maximum flood (PMF) developed by the staff. Based on a telephone conference call held March 30, 2006, the PMF analysis includes the following considerations:

- Unit Hydrographs (UH) developed according to the Snyder and SCS methods are appropriately conservative to calculate PMF at the site.
- The watershed for Clinton Lake is 296 m^2.
- Probable Maximum Precipitation (PMP) value is 27.8 inches.
- Maximum wind run-up is 6.4 ft.
- The wind set up is 0.3 ft.

The calculations and assumptions in EGC's March 24, 2006, letter were developed using the single Clinton Lake watershed, given the staff's use of a single watershed to calculate PMF. In later discussions, NRC staff and EGC concluded that three matters remained to be resolved in the Site Safety Analysis Report (SSAR):

- Precipitation losses asserted in the SSAR and March 24, 2006, letter should be confirmed.
- EGC should delete all references to the U.S. Army Corps of Engineers' *Spillway Rating and Flood Routing* (SPRAT) model.
- EGC should prepare UH for a minimum of two watersheds to calculate PMF.

This letter will identify these and other proposed revisions to the SSAR PMF calculations. Bracketed text will not be included in the SSAR, but is presented here to clarify information for the staff based on various information requests stemming from the applicant's March 24, 2006 letter.

Proposed Changes to be Included in SSAR, Rev. 04

2.4.2 Floods

2.4.2.1 Flood History

[The SSAR revisions already identify the flood history at post dam conditions.]

2.4.2.2 Flood Design Considerations

[This section will be revised to delete references to the SPRAT models. The following text will replace the section.]

The flood design analyses for the lake and ESP site are based on a probable maximum precipitation (PMP) event with a standard project storm (SPS) as an antecedent flood. This design basis is in accordance with the recommendations given by the USNRC Regulatory Guide 1.59 (1977). The PMF is an estimated flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions, and it can reasonably occur in the region. The SPS is estimated to be equal to 40 percent of the PMP, occurring prior to the PMP event. The maximum water level was determined by applying various components of a maximum storm event to unit hydrographs, as described in SSAR Section 2.4.3.1.

The PMF elevation at Clinton Lake is 709.8 ft above mean sea level (msl) using a 72-hr duration PMP value of 27.8 in. The design of this flood event is described more thoroughly in SSAR Section 2.4.3.1. Wave run-up elevation due to sustained winds acting on the PMF water level is discussed in SSAR Sections 2.4.3.6 and 2.4.10.

All safety related structures at the EGC ESP facility will either be outside the flood elevation or designed to withstand the effects of flooding.

2.4.2.3 Effects of Local Intense Precipitation

[The effects of local intense precipitation will be evaluated using the 72-hour basis described in HMR-52, and support the revised probable maximum precipitation PMP event.]

The effects of local intense precipitation on the EGC ESP Site were evaluated on the basis of 24-hr PMP estimates for "Zone 7" from the U.S. Weather Bureau Hydrometeorological Report (HMR) Nos. 51, 52, and 53. [The information was summarized in the March 24, 2006, letter to the NRC (3/24/06 letter).] The 72-hr PMP estimates (in 6-hr increments) are summarized in [Table 3.2.2 of the 3/24/06 letter], with an estimated cumulative PMP for the site area of 27.8 in. The 72-hr PMP for the site area is assumed to form the design basis for flood protection for the EGC ESP facility.

2.4.3 Probable Maximum Floods on Streams and Rivers.

[The most recent revisions, based on EGC's analysis, will be incorporated into this section of the SSAR. The most important changes will delete references to the SPRAT model, identify EGC's basis for its PMP and precipitation loss calculations, and identify the PMF based on unit hydrographs for two or more local areas. The unit hydrographs for two or more basins are based on known information about the site and watershed.]

2.4.3.1 Probable Maximum Precipitation

[This section will describe recent calculations used in EGC's PMF analysis. These calculations support a PMP event of 27.8 inches, as described in the 3/24/06 letter.]

Section 2.4.3.2 Precipitation Losses

[**Introductory Note:** The topography of the Salt Creek basin is gentle to moderate. Using local soil surveys, EGC used the initial and constant loss method in which the interception and depression storage was assumed to be 1.5 in. All other losses, including infiltration,

were assumed to be 0.1 inches thereafter. The staff requested justification for this conclusion, given their observation that infiltration at the site was minimal. The EGC team has performed an independent analysis of the soils and probable infiltration rates, and will include the following discussion.]

The Soil Survey of Dewitt County, Illinois, identifies three major soils in the Clinton Lake watershed: Ipava, Sable, and Catlin (USDA, 1991). For these three soils the saturated permeability ranges from 0.6 to 2.0 inches/hour. By texture this soil can be described as silt loam. This soil type falls under SCS hydrologic soil group B for which the infiltration rate under saturated soil conditions ranges from 0.15 to 0.30 inches/hour (Haan et al, 1982). In CPS-USAR (2002) an overall curve number (CN) of 74 was used for the infiltration losses. The EGC team used two accepted methods to understand the effects of runoff at the site: Snyder and the Soil Conservation Service method. While using the Snyder method for calculating runoff during flood events, EGC used the constant infiltration rate of 0.1 inch/hour. The team also calculated infiltration using the SCS method, and a CN of 75.

According to the USACE *National Engineering Handbook*, the SCS CN-based infiltration rate is given as:

$$i = \frac{S^2 r}{(P - I_a + S)} \qquad \text{Equation 2.4-1}$$

where P is the cumulative rainfall, r is rainfall intensity, S is a retention parameter, and I_a is the initial abstraction of rainfall (i.e. the observed rainfall depth prior to the observation of runoff). The value of S varies with soil type, land use, management practice, slope, and ambient soil water content. The parameter S is related to curve number (CN) by the SCS equation (SCS, 1972):

$$S = \frac{1000}{CN} - 10 \qquad \text{Equation 2.4-2}$$

The value of S obtained from Equation 2.4-2 is in inches. The curve number is generally provided for average moisture conditions (CN_2), also called the average curve number, and can be obtained by using the SCS methodology (Haan et. al, 1982). The CN tables consider soil type, land use, and antecedent moisture conditions (AMC).

In order to account the antecedent condition due to considerable rainfall prior to rain in question, the curve number (CN_3) for AMC 3 (wet) is used. CN_3 is related to CN_2 with the following equation (Haan et al., 1982):

$$CN_3 = \frac{23CN_2}{10 + 0.13CN_2} \qquad \text{Equation 2.4-3}$$

Using the above equations the hourly infiltration rates were calculated for the SCS method and compared with the assumed constant infiltration rate in Figure 1. [The figures included

with this letter will be incorporated into SSAR revisions with appropriate numbers and references.]

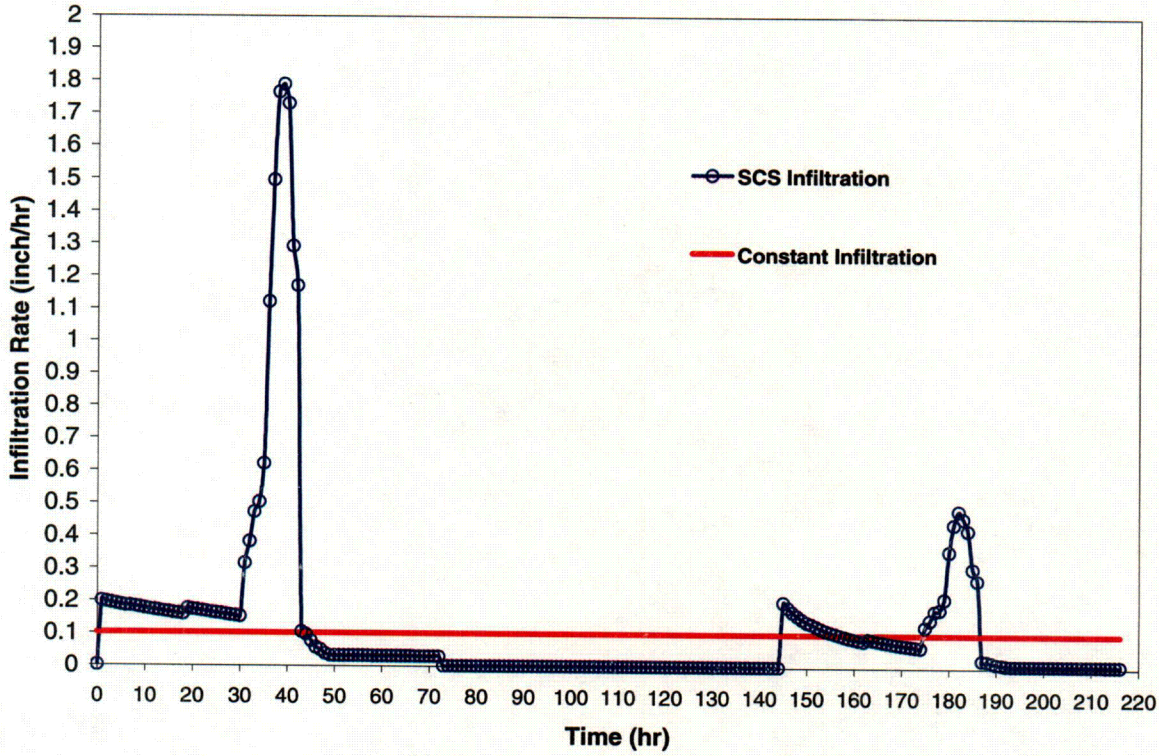

***FIGURE 1:** SCS CURVE NUMBER BASED INFILTRATION AND CONSTANT INFILTRATION RATE*

The average SCS CN-based infiltration rate is 0.12 inch/hr for the total 216 hours event characterized by 72-hr 40% PMP followed by 72-hr no rainfall, followed by the 72-hr full PMP as required in ANSI/ANS 2.8-1992 and HMR-51. Thus, the assumption of 0.1 inch/hour infiltration is a conservative assumption on all 3-different criteria described above. [The process used is based on USACE's National Engineering Manual, as well as e-mail correspondence between the EGC SME and USACE personnel at the Rock Island District (Stuber, 2006). The EGC team used the constant infiltration rate of 0.1 in/hr while evaluating the SCS method of run-off calculation, rather than the SCS CN method.]

2.4.3.3 Runoff and Stream Course Models

[**Introductory Note:** The NRC and EGC agreed to develop runoff and stream course models using multiple watersheds. This section will identify EGC's methodology for developing the PMF. The new methodology uses SCS and Snyder methods within the HEC/HMS model and the equations found in Mitchell's review of the Sangamon River Basin (Mitchell 1948) to support unit hydrographs for the two main basins of Salt Creek as well as multiple basin areas. The following explanation will be included in the SSAR revisions.]

C01

Synthetic hydrographs are used to determine the runoff hydrographs resulted from the PMP storm. Synthetic hydrographs are based on hydrologic data from a large number of basins and therefore represent typical hydrographs. The synthetic hydrograph can be applied to a watershed using basin parameters such as lag time and area of the watershed. Out of many different synthetic hydrograph methods, the most commonly used synthetic hydrograph methods are: (1) SCS Unit Hydrograph, and (2) the Snyder's Unit Hydrograph methods. In this study we used both the SCS and Snyder's synthetic hydrographs through HEC-HMS 3.0.0 model. To apply the synthetic hydrograph approach, the Clinton Lake watershed was divided into three sub-basins: the Salt Creek watershed, North Fork watershed, and Clinton Lake itself. This model is called the "Two-Basin + Lake Model." To further understand the effect of number of sub-basins we divided the Clinton lake watershed into eight sub-basins: the Salt Creek head water sub-basin and local sub-basins of the Salt Creek, North Fork head water sub-basin and local sub-basins of the North Fork creek, and Clinton Lake itself.

2.4.3.3.1 Two–Basin + Lake Model

Figure 2 depicts the schematic of the Two Watershed model in HEC-HMS model.

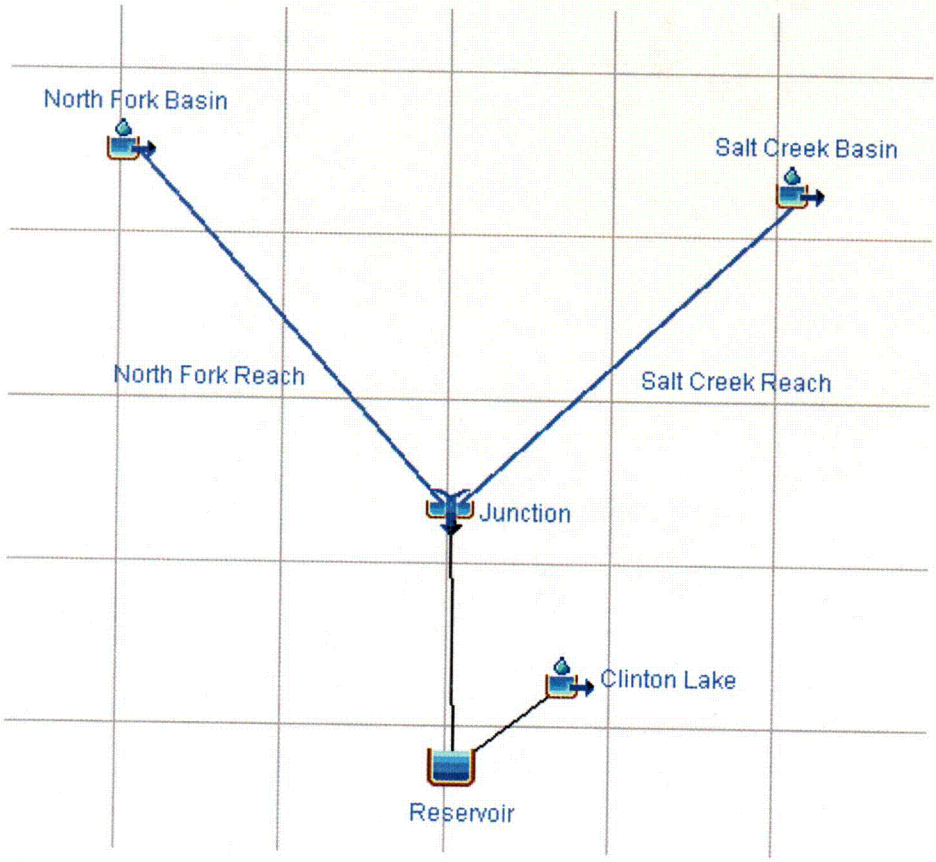

Figure 2: *Two–Basin + Lake Model Schematic*

C02

A Unit Hydrograph is defined as the direct runoff hydrograph produced by 1 unit (inch) of effective rain uniformly distributed over a basin. Unit hydrographs can be combined with precipitation data and basin data to determine the direct runoff hydrograph for a particular basin.

A UH has meaning only in connection with a specific duration of runoff. A basin may have many different UHs, each associated with a different duration of runoff. Haan et al. (1994) recommends that the duration D of a UH should be between $T_P/5$ and $T_P/3$, where T_P is the time to peak. Further, T_P is a function of D and catchment lag time T_L and defined as $T_P = T_L + D/2$. The catchment lag is a parameter that is used in UH theory to provide a global measure of the response time of a catchment area. This global parameter incorporates various basin characteristics such as hydraulic length, gradient, drainage density, drainage patterns. To determine these characteristics it is necessary to delineate the sub-basins according to their drainage pattern. The sub-basin characteristics of the Clinton Lake watershed are not readily available and thus accurate characterization of sub-basin lag times based on assumptions is difficult. Based on detailed studies of the variations of the individual natural unit hydrographs and their synthetic counterparts in the state of Illinois, Mitchell (1948) has suggested empirical equations involving only the drainage area of a sub-basin. These equations, which are specifically developed for the study area, are used in the present analysis rather than calculating lag times based on some assumptions. Table 1 lists various watershed parameters along with the SCS and Snyder Hydrograph parameters used in the HEC-HMS models.

TABLE 1
Hydrologic Parameters for the "Two–Basin + Lake Model"

Parameter	Units	Salt Creek	North Fork	Clinton Lake
Watershed Parameters				
A	sq. miles	162.5	126	8
$t = 1.05A^{0.6}$	hr	22.3	19.1	3.7
$T_L = (t/2.8)^{1/0.81}$	hr	12.9	10.7	1.4
Max D = Tp/3	hr	5.0	4.1	0.5
Min D = Tp/5	hr	3.0	2.4	0.3
D (selected)	hr	4	3	0.5
Peak flow (CPS 2002)	cfs	NA	NA	2500
Peak flow	cfs	5266	4993	2361
Unit Hydrograph Vol. Check	inches	1.0	1.0	1.0
SCS Hydrograph Parameters				
SCS lag time	hr	14.9	12.2	1.6
Initial Loss	in	1.5	1.5	0

TABLE 1
Hydrologic Parameters for the "Two–Basin + Lake Model"

Parameter	Units	Salt Creek	North Fork	Clinton Lake
Watershed Parameters				
A	sq. miles	162.5	126	8
$t = 1.05A^{0.6}$	hr	22.3	19.1	3.7
$T_L = (t/2.8)^{1/0.81}$	hr	12.9	10.7	1.4
Constant Infiltration Rate	in/hr	0.1	0.1	0
Snyder Hydrograph Parameters				
Snyder peaking factor	-	0.6	0.6	0.6
Snyder lag time	hr	11.8	9.7	1.3
Initial Loss	in	1.5	1.5	0
Constant Infiltration Rate	in/hr	0.1	0.1	0

The unit hydrographs for the Salt Creek, North Fork, and Clinton Lake based on the parameters listed in Table 1 are shown in Figure 3.

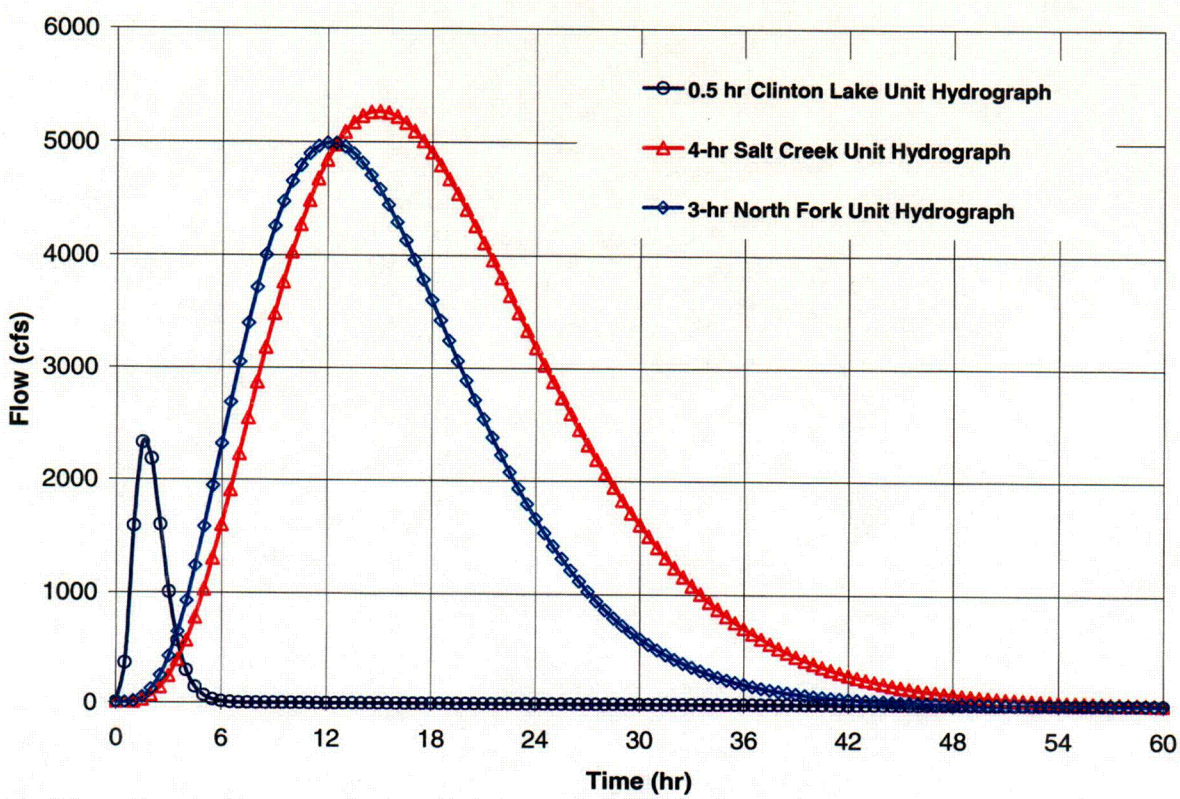

Figure 3: *Unit Hydrographs for Salt Creek, North Fork, and Clinton Lake Watersheds*

C03

Table 2 presents various parameters used for the reach routing using the kinematic wave procedure.

Table 2
Hydraulic Routing Parameters for the "Two-Basin + Lake Model"

Element	Method	Length (ft)	Slope (ft/ft)	Manning's n	Width (ft)	Shape
North Fork Reach	Kinematic Wave	35000	0.002	0.03	1400	Deep
Salt Creek Reach	Kinematic Wave	75000	0.002	0.03	2500	Deep

Table 3 summarizes the maximum water levels in the Clinton Lake obtained from the SCS and Snyder's unit hydrograph methods applied to the Two-Basin model. For the Snyder method the peaking factor was varied from 0.8 to 0.4 and it was observed that the peaking factor of 0.8 gives conservative results which are the same as obtained by using the SCS method. The resulting maximum still water level (or PMF) in Clinton Lake is 709.7 ft above msl.

Table 3

HEC-HEMS Results for the "Two-Basin + Lake" Model

Method	Max Clinton Lake Water Level (ft)	Peaking Factor
SCS Hydrograph	709.7	-
Snyder's Hydrograph	708.7	0.6
	709.6	0.8
	708.3	0.4

The detailed results of these model runs are shown in Figures 4 to 7.

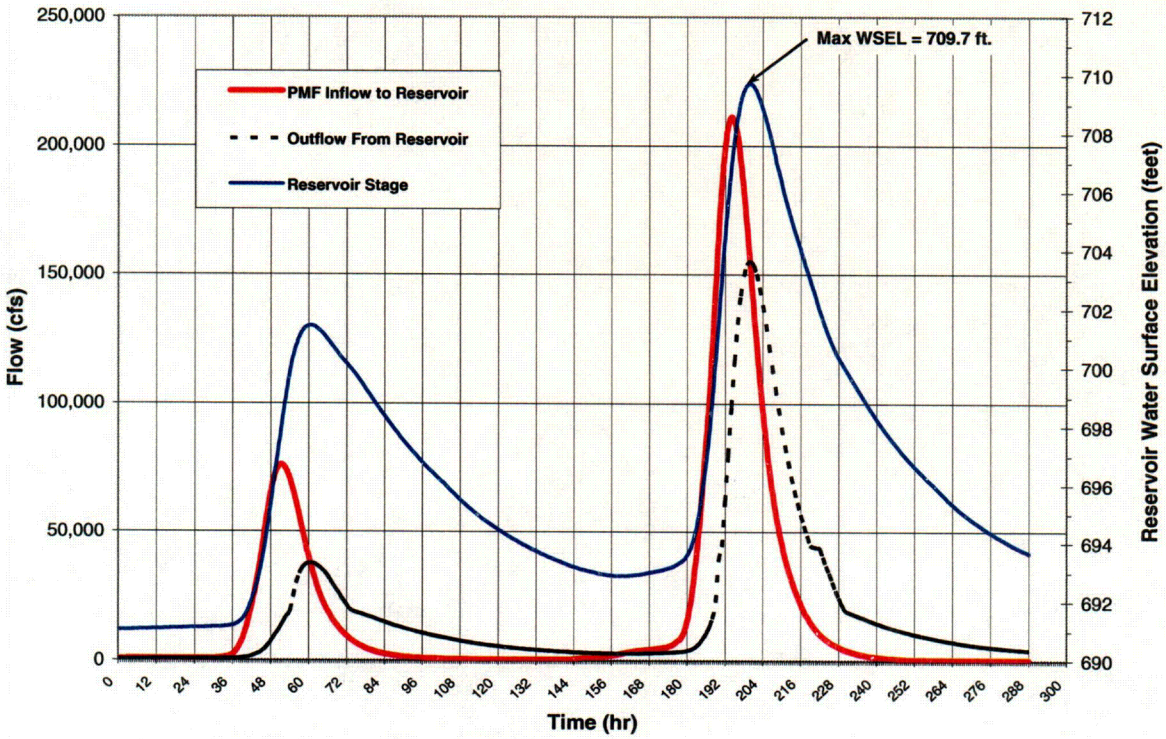

Figure 4: *HEC-HMS Results Using SCS Hydrograph Method for Two–Basin Model*

C04

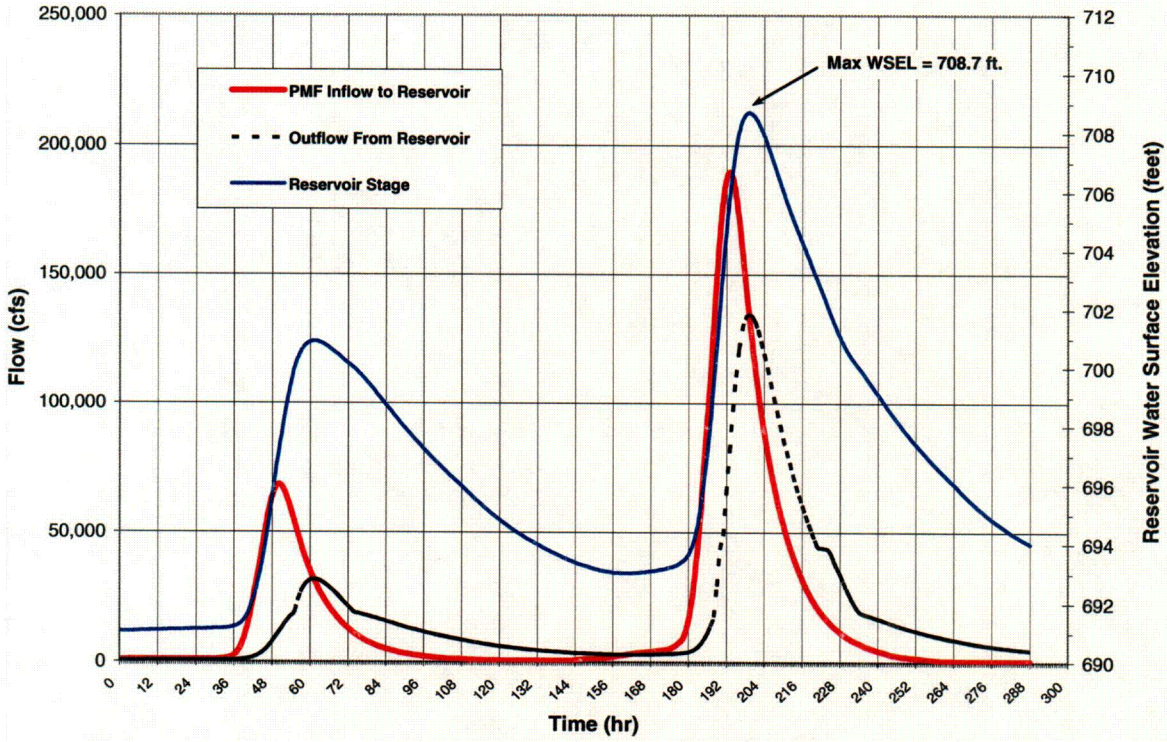

***Figure 5**: HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.6 for Two–Basin Model*

C05

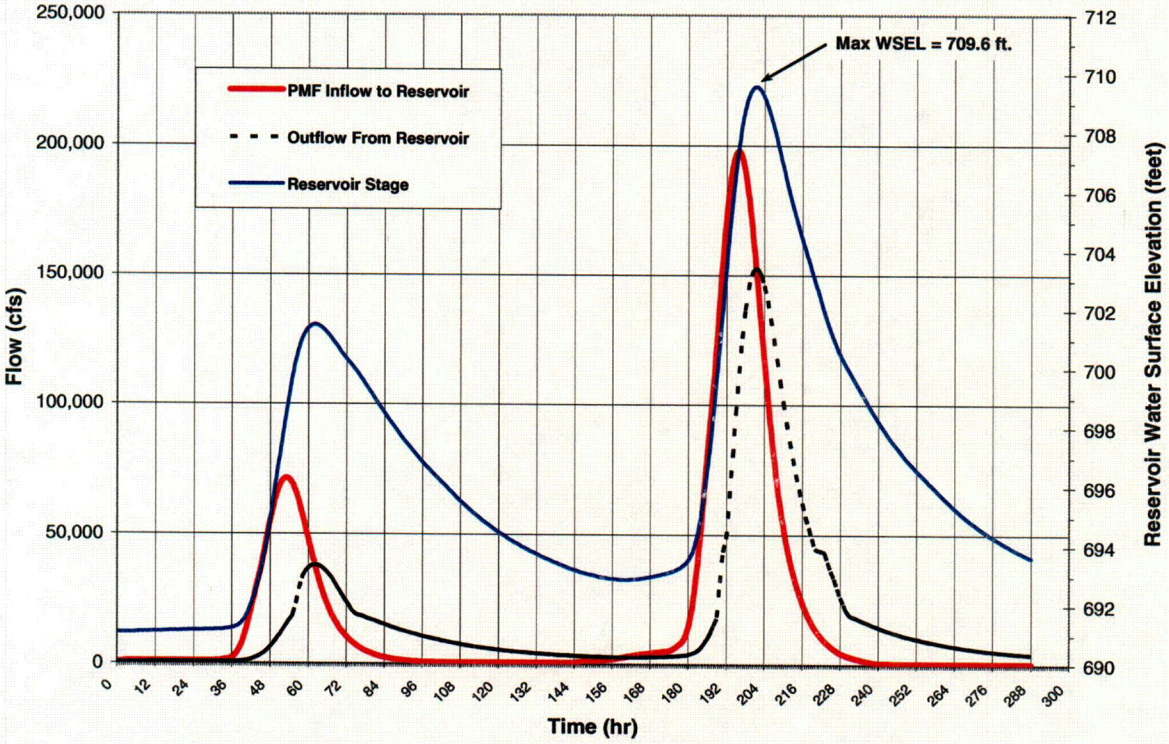

Figure 6: *HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.8 for Two–Basin Model*

C06

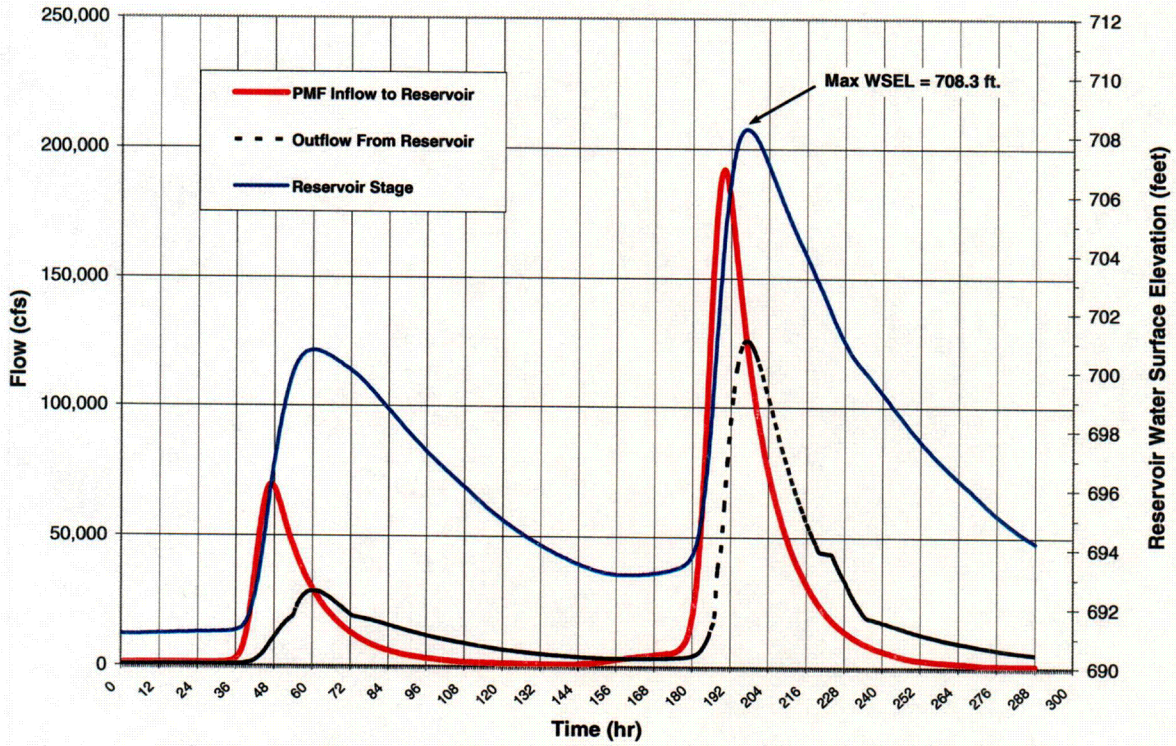

Figure 7: *HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.4 for Two–Basin Model*

C07

2.4.3.3.2 Seven–Basin + Lake Model

An equivalent analysis is conducted by considering eight sub-basins into the Clinton Lake watershed similar to Figure 2.4-7 of the CPS USAR (2002). The model schematic is shown in Figure 8.

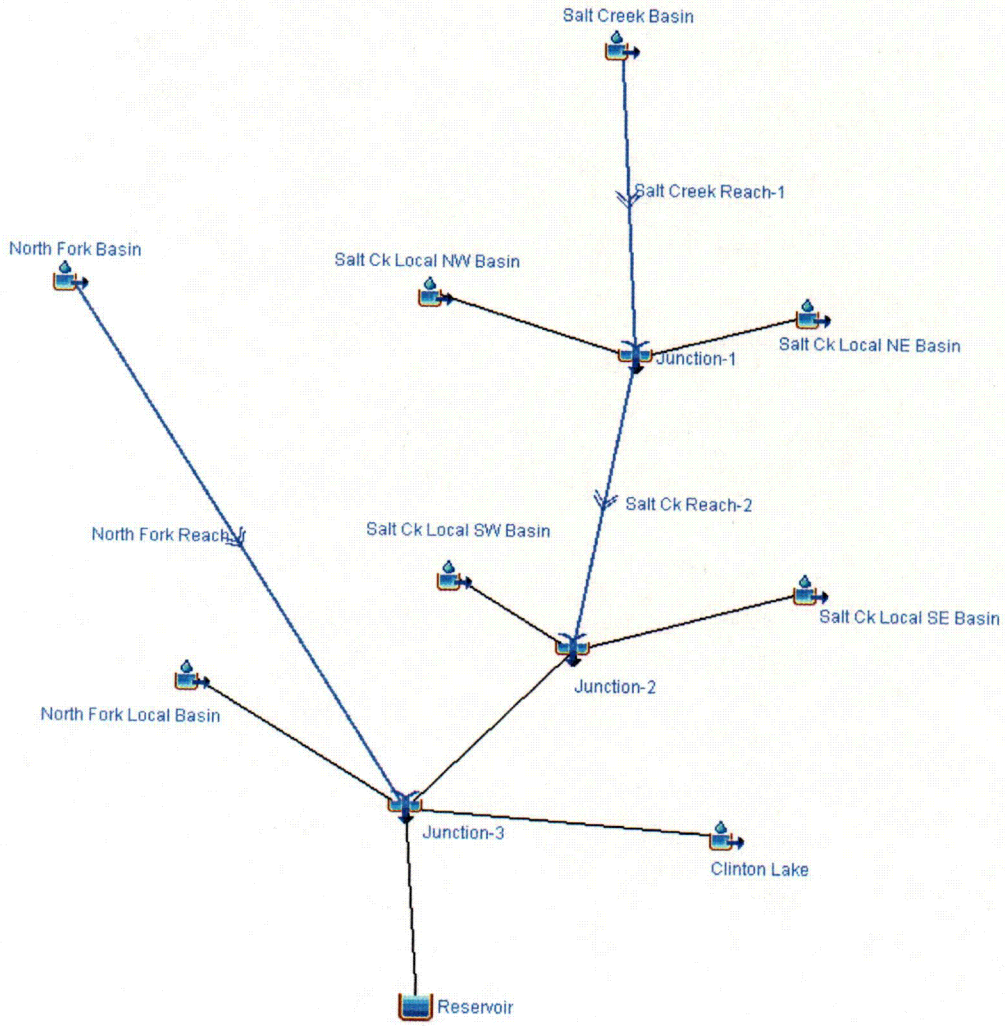

Figure 8: *Seven–Basin + Lake Model Schematic*

Table 4 presents the watershed parameters for both the SCS and Snyder method.

C08

TABLE 4
Hydrologic Parameters for the "Seven-Basin + Lake Model"

Parameter	Units	Salt Ck Head Water	Salt Ck NE	Salt Ck NW	Salt Ck SE	Salt Ck SW	N Fork Head Water	N Fork Local	Clinton Lake
Watershed Parameters									
A	$Mile^2$	126.8	5	16.3	6.2	8.2	111	15	8
$t = 1.05A^{0.6}$	hr	19.2	2.8	5.6	3.1	3.7	17.7	5.3	3.7
$T_L = (t/2.8)^{1/0.81}$	hr	10.8	1.0	2.4	1.2	1.4	9.8	2.2	1.4
Max D = tp/3	hr	4.1	0.4	0.9	0.5	0.6	3.8	0.8	0.5
Min D = tp/5	hr	2.5	0.2	0.5	0.3	0.3	2.3	0.5	0.3
D (selected)	hr	3	0.25	0.5	0.5	0.5	3	0.5	0.5
Peak flow (qp) (Given)	cfs	4490	1155	1880	1275	1410	4250	1890	2500
Peak flow (qp)	cfs	5004	2187	3028	2142	2382	4774	2946	2361
Unit Hydrograph Vol. Check	in	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SCS Hydrograph Parameters									
SCS lag time	hr	12.3	1.1	2.6	1.4	1.7	11.3	2.5	1.6
Initial Loss	in	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0
Constant Infiltration Rate	in/hr	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
Snyder Hydrograph Parameters									
Snyder's peaking factor	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Snyder's lag time	hr	9.7	0.9	2.1	1.1	1.3	8.9	2.0	1.3
Initial Loss	in	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0
Constant Infiltration Rate	in/hr	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0

Figure 9 depicts the unit hydrographs developed from Table 4.

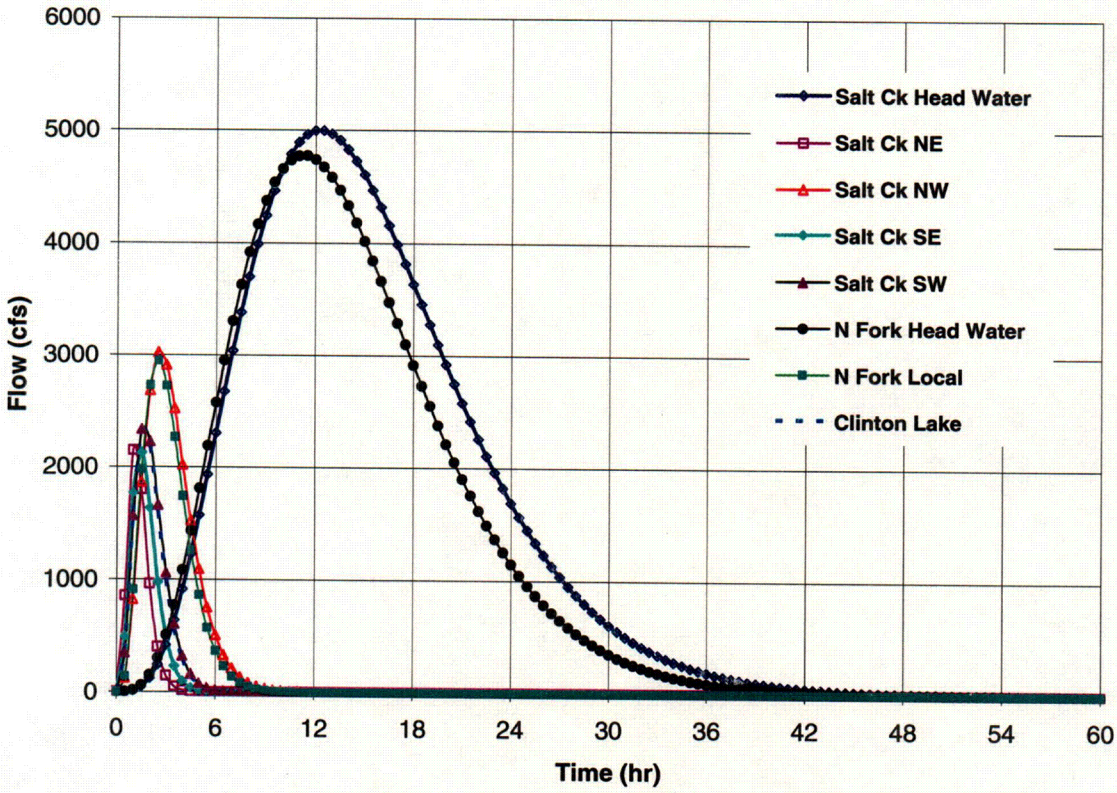

Figure 9: *Unit Hydrographs for Salt Creek, North Fork, and Clinton Lake Watersheds*

Table 5 presents the hydraulic parameters for the routing.

Table 5

Hydraulic Routing Parameters for the "Seven-Basin + Lake" Model

Element	Method	Length (ft)	Slope (ft/ft)	Manning's n	Width (ft)	Shape
North Fork Reach	Kinematic Wave	35000	0.002	0.03	1400	Deep
Salt Creek Reach-2	Kinematic Wave	35000	0.002	0.03	3000	Deep
Salt Creek Reach-1	Kinematic Wave	30000	0.002	0.03	2500	Deep

Table 6 summarizes the overall results in form of maximum water level in the Clinton Lake.

Table 6

HEC-HMS Results for the "Seven-Basin + Lake" Model

Method	Max Clinton Lake Water Level (ft)	Peaking Factor
SCS Hydrograph	709.8	-
Snyder's Hydrograph	709.2	0.6

C09

Table 6

HEC-HMS Results for the "Seven-Basin + Lake" Model

Method	Max Clinton Lake Water Level (ft)	Peaking Factor
	709.7	0.8
	709.0	0.4

The detailed model results are given in Figures 10 to 13. Using these seven basins, plus the lake, the maximum water elevation (or PMF) in the Clinton Lake is 709.8 ft above msl.

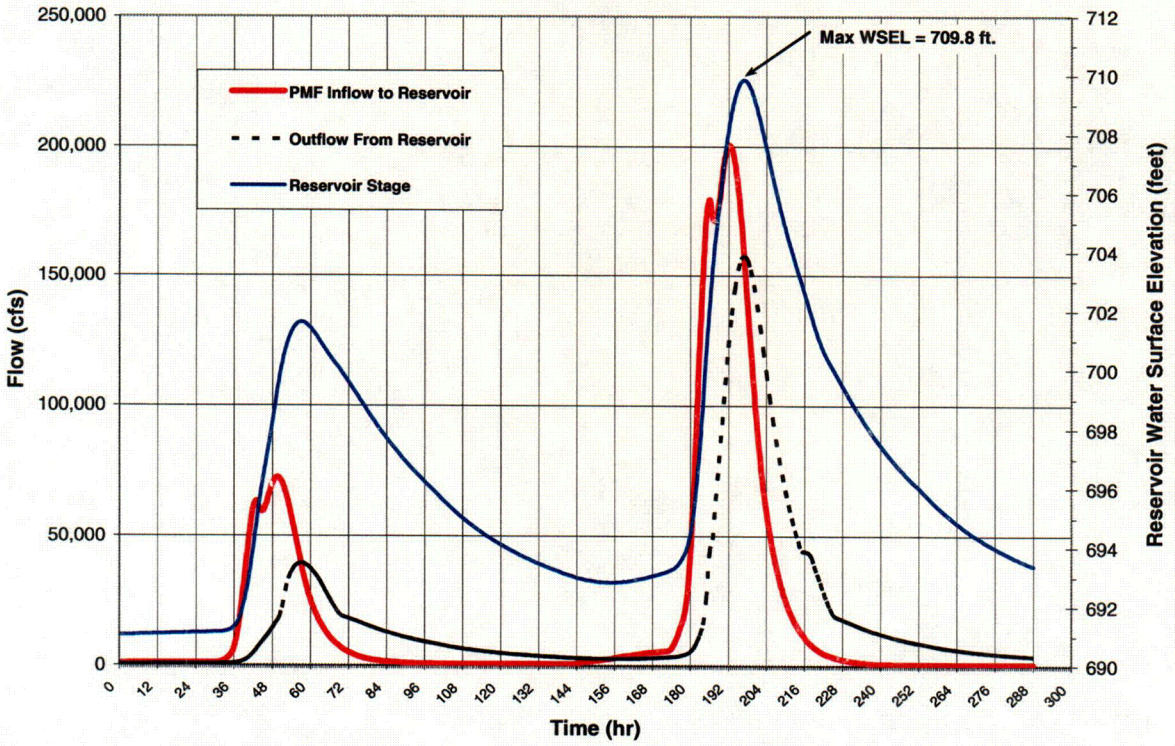

Figure 10: *HEC-HMS Results Using SCS Hydrograph Method for Seven–Basin Model*

C10

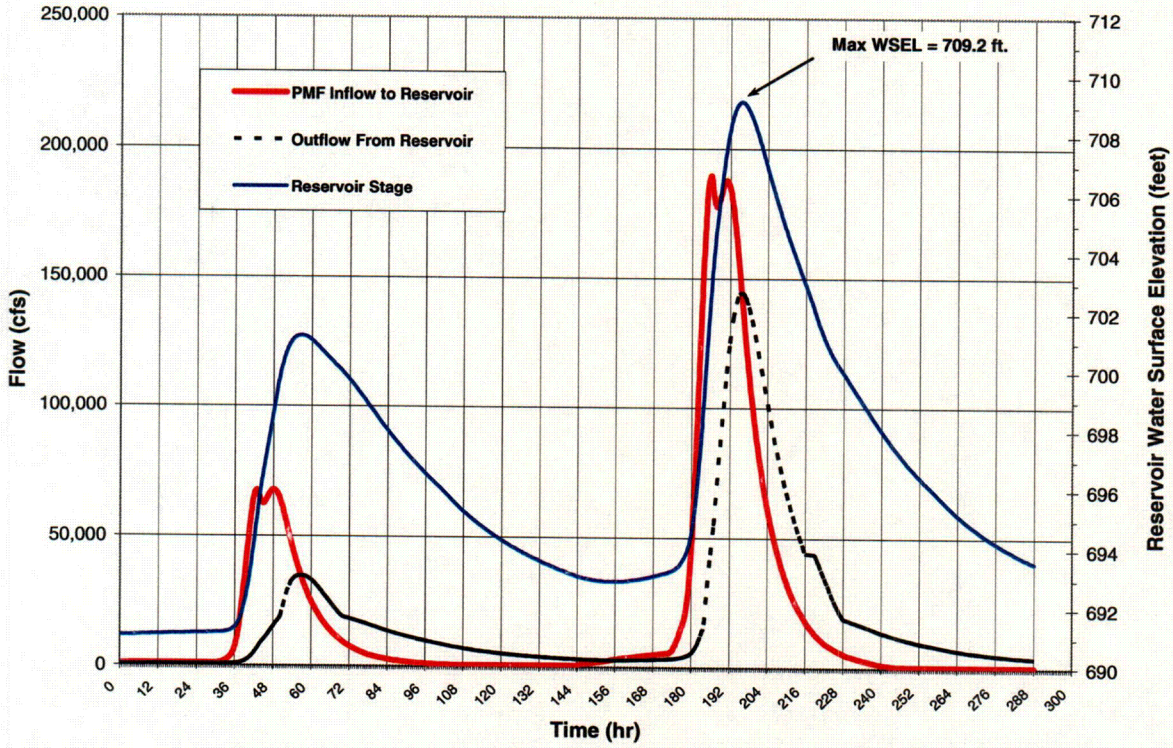

Figure 11: *HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.6 for Seven–Basin Model*

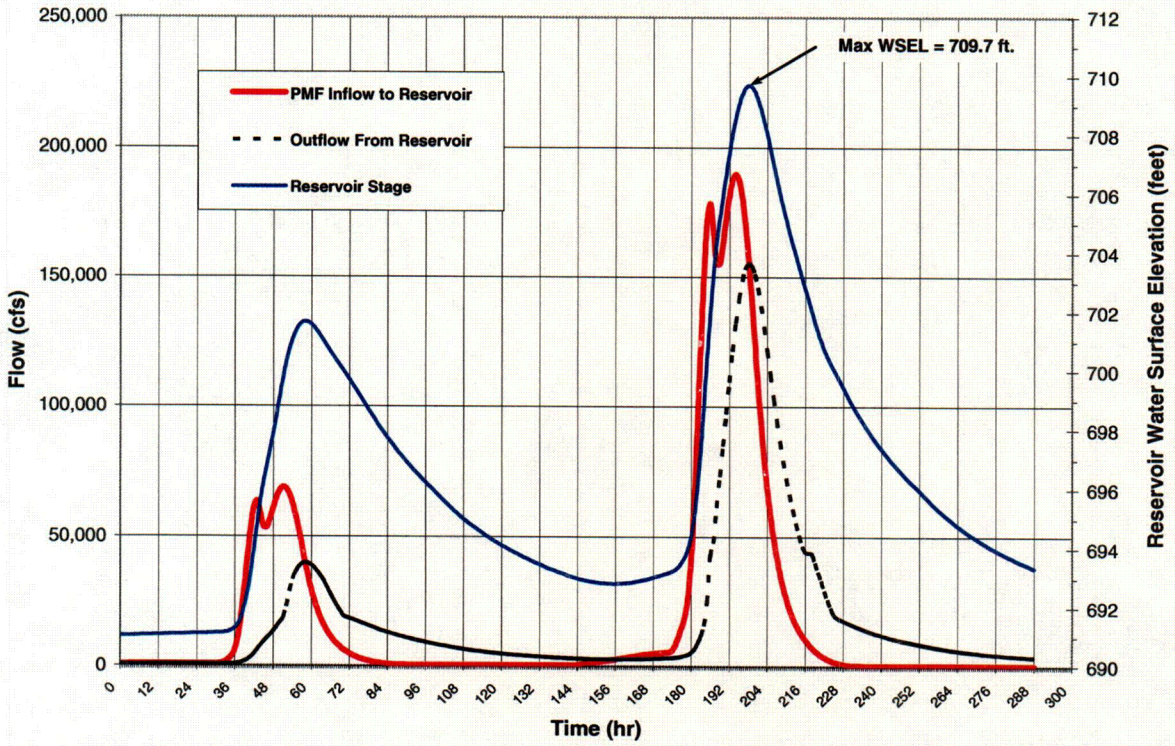

Figure 12: *HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.8 for Seven–Basin Model*

C12

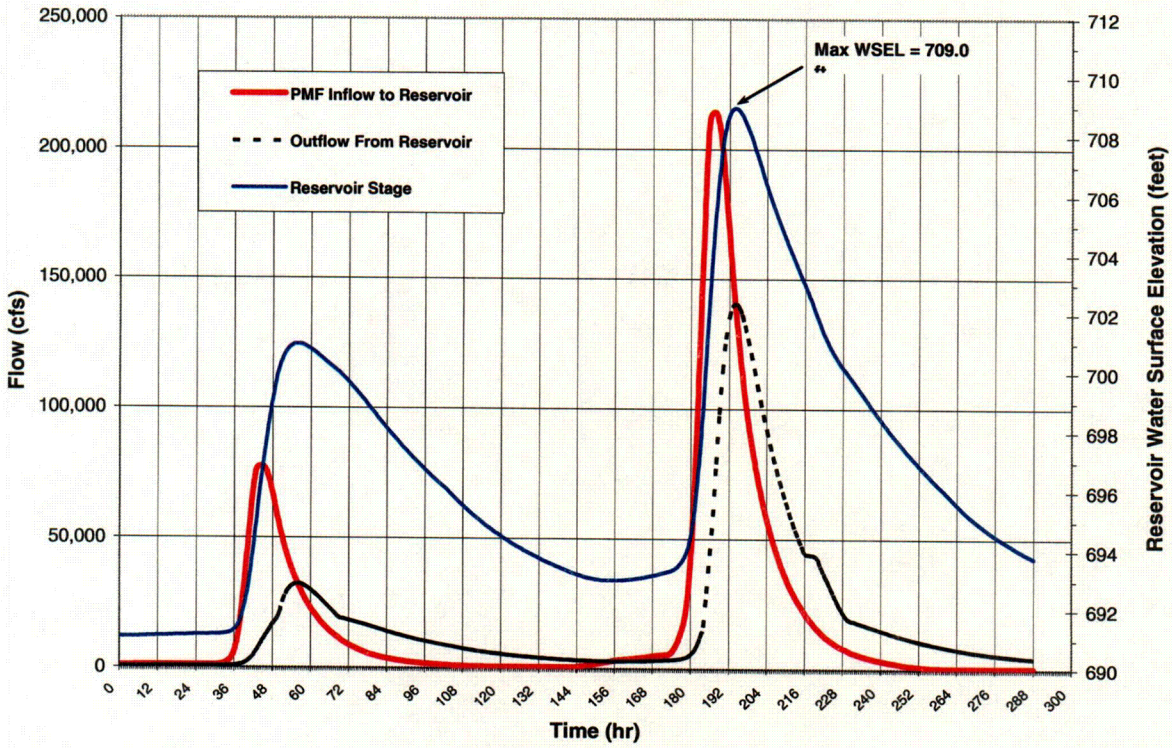

Figure 13: *HEC-HMS Results Using Snyder's Hydrograph Method with Peaking Factor 0.4 for Seven–Basin Model*

2.4.3.4 Probable Maximum Flood (PMF) Flow

The maximum PMF flow from the Salt Creek watershed is 214,175. Maximum inflows, storage, outflow and PMF elevations are shown in Table 7.

Table 7

Maximum Probable PMF Flow

Method	Max Inflow (cfs)	Max Storage (acre-ft)	Max WS Elevation (ft)	Max Outflow (cfs)
Two Watershed				
Snyder with peaking factor of 0.4	192,170	201,787	708.3	125,840
Snyder with peaking factor of 0.6	189,694	205,847	708.7	134,479
Snyder with peaking factor of 0.8	197,938	214,227	709.6	152,383
SCS	210,814	215,487	709.7	155,081
Seven Watershed				
Snyder with peaking factor of 0.4	214,175	208,660	709.0	140,466
Snyder with peaking factor of 0.6	189,694	205,847	708.7	134,479
Snyder with peaking factor of 0.8	189,753	215,474	709.7	155,053
SCS	200,372	216,700	709.8	157,677
Max	214,175	216,700	709.8	157,677

2.4.3.5 Water Level Determinations

Given the results of the hydrologic analyses in Section 2.4.3.3 and 2.4.3.4, EGC determined that the estimated maximum flood that can be expected from the most severe conditions at the site is 709.8 ft above msl using the more conservative 7-basin + lake model approach. Both models represent possible flooding conditions for the watershed. The 7-basin + lake model allows for a more fine-tuned analysis, and more conservative conclusions.

This maximum level is a hydrostatic level, so that the level remains the same at the dam and at the ESP Site. The site characteristic for the maximum flood water level is established at 709.8 ft above msl.

2.4.3.6 Coincident Wind Wave Activity

The significant (33.33 percent) and maximum (1 percent) wave effects of coincident 52 mph winds were superimposed on the PMF water level at the site. The wave runups were calculated based on deepwater and nonbreaking wave conditions with an effective fetch of 0.8 mi, a water depth of 40.5 ft, and the waves acting on a smooth 3:1(horizontal to vertical) ground slope. The significant (33.3 percent probability) wave runup is 3.8 feet. Similarly, for the maximum (1 percent probability) wave runup, the runup value is 6.4 feet.

2.4.5 Probable Maximum Surge and Seiche Flooding

As noted in Section 2.4.3.6, the setup conditions for the coincident wind wave activity is based on an effective fetch of 0.8 mi, a water depth of 40.5 ft, and the waves acting on a smooth slope. In order to provide a high level of conservatism, a Probable Maximum Wind Storm (PMWS) of 100 mph was used to calculate the maximum storm surge. Based on the PMWS of 100 mph, the maximum surge for calculating the PMF is 0.3 ft.

2.4.8.1.1 Cooling Lake Dam

[This section describes the effects of the PMF on potential cooling lake dam failures. The new PMF value, along with the coincident wave activity and surge will be added to the discussion. The new analysis described above does not represent the dam design basis. The dam design is not part of this analysis.]

2.4.10 Flooding Protection Requirements

[This section will be revised to include a discussion of the new PMP and PMF effects on the dam site, similar to the discussion in SSAR Section 2.4.8.1.]

The flooding effects of a PMF on Salt Creek and a local PMP on the plant area are the design bases for flood protection. The considerations for selecting the PMF on Salt Creek as the design flood are discussed in Section 2.4.2.2, Flood Design Considerations. The effects of the PMF and coincident wind wave activity on the lake at the site are discussed in Section 2.4.3, Probable Maximum Flood on Streams and Rivers.

The maximum (1 percent) wave runup elevation at the station site is 716.5 ft above msl, produced by a sustained 52 mph overland wind acting on the PMF still water elevation of 709.8 ft above msl. The approximate grade elevation for the EGC ESP Facility of 735 ft above msl is approximately 19 ft above the maximum wave runup level and 25 ft above the PMF still water level. The safety-related facilities in the station area would not be affected by the PMF conditions in the lake. The only EGC ESP Facility structure that would be affected by the PMF is the intake structure, which will be designed to consider flood protection of the safety-related equipment located in the intake structure.

The flooding effects of the local intense precipitation (i.e., the local PMP values) are design related (since the effects are dependent on site grading and drainage design) and will be addressed at the COL stage as indicated in Section 2.4.2.3.

Conclusion

As result of the new calculations performed by the EGC team, the following site characteristic values will be added to the appropriate discussions in the SSAR (Rev. 4):

- Hydrostatic PMF:
    - 709.8 above msl
- Coincidental wind wave activity:
    - Significant (33.33 percent): 3.8 ft
    - Maximum (1 percent): 6.4 ft
- Maximum storm surge: 0.3 ft

The site characteristic PMF is developed from these three components, added together according to RG 1.59. Thus, the site characteristic PMF is 716.5.

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