

Serial No. 04-126

Enclosure 8

NON-PROPRIETARY VERSION

Bechtel Calculation 24830-G-017, Rev. 0, Cooling Lake Evaporation Loss Modeling



CALCULATION COVER SHEET

PROJECT Dominion North Anna ESP Project	JOB NO. 24830-003	CALC NO. 24830-G-017	SHEET 1
SUBJECT Cooling Lake Evaporation Loss Modeling		DISCIPLINE G&HES	

CALCULATION STATUS DESIGNATION	PRELIMINARY	CONFIRMED	SUPERSEDED	VOIDED
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPUTER PROGRAM/TYPE	SCP	PROGRAM NO.	VERSION/RELEASE NO.
	<input type="checkbox"/>		

THIS CALCULATION HAS BEEN REVIEWED BY BECHTEL POWER CORPORATION AND ANY PROPRIETARY INFORMATION HAS BEEN REMOVED. WHEREVER PROPRIETARY INFORMATION HAS BEEN REMOVED, BRACKETS HAVE BEEN INSERTED CONTAINING THE STATEMENT "PROPRIETARY INFORMATION DELETED."

ATTACHMENTS:

[PROPRIETARY INFORMATION DELETED]

NO.	REASON FOR REVISION	TOTAL NO. OF SHEETS	LAST SHEET NO.	BY	CHECKED	APPROVED/ACCEPTED	DATE
0	Issue to project						

RECORD OF REVISIONS

Bechtel Confidential



CALCULATION SHEET

PROJECT: Dominion North
Anna ESP Project
JOB NUMBER: 24830-003
CALC NO. 24830-G-017

SUBJECT Cooling Lake Evaporation Loss Modeling

SHEET NO. 2

BY Alexander Kochurov

DATE 12 August 2003 SHEET REV. 0

USER MICROCOMPUTER AND SOFTWARE TESTING STATEMENT

[PROPRIETARY INFORMATION DELETED]



CALCULATION SHEET

PROJECT: Dominion North
Anna ESP Project
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SHEET NO. 3

BY Alexander Kochurov

DATE 12 August 2003 SHEET REV. 0

I. OBJECTIVES

This calculation is performed as a part of an effort to assess the water supply availability by estimating the evaporative water loss from Lake Anna "Cooling Lake" (CL) due to additional heat load from the new generation units of the North Anna Power Station (NAPS). The CL consists of two parts: a cooling pond, called Waste Heat Treatment Facilities (WHTF), and a main lake, called North Anna reservoir. The calibrated MIT Cooling Lake Model was used to predict the water loss due to new generation.

II. REFERENCES

[*PROPRIETARY INFORMATION DELETED*]

III. BACKGROUND

[*PROPRIETARY INFORMATION DELETED*]

IV. METHODOLOGY & APPROACH

[*PROPRIETARY INFORMATION DELETED*]

V. MIT COOLING LAKE MODEL, INPUT AND OUTPUT DESCRIPTION

[*PROPRIETARY INFORMATION DELETED*]

VI. MODEL THERMAL PREDICTION

[*PROPRIETARY INFORMATION DELETED*]

VII. HEAT BALANCE CALCULATION

[*PROPRIETARY INFORMATION DELETED*]

VIII. EVAPORATIVE LOSS PREDICTION

[*PROPRIETARY INFORMATION DELETED*]



CALCULATION SHEET

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SHEET NO. 4

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IX. CONCLUSIONS

[PROPRIETARY INFORMATION DELETED]

ATTACHMENTS

[PROPRIETARY INFORMATION DELETED]



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