

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

B65 '86 0527 001

TO : Paul Wade, Director of Fossil and Hydro Power, LP 3S 58K-C

FROM : W. M. Bivens, Manager of Power Engineering, 12-113 SB-K

DATE : MAY 27 1986

SUBJECT: KINGSTON STEAM PLANT - ANNUAL JOINT INSPECTION OF THE ASH DISPOSAL AREAS
POWER ENGINEERING AND FOSSIL AND HYDRO POWER

Attached is a report from D. R. Galloway to R. E. Harris dated May 20, 1986 (B65 860520 009) concerning the joint inspections of the Kingston Steam Plant ash disposal areas. This report includes recommendations for corrective work. I concur with these recommendations.

W. M. Bivens

get ^{DEB} ^{WMB}
OPT:WMM:SMV
Attachment

cc (Attachment):

RIMS, SL 26 C-K (w/o drawings)
G. L. Buchanan, W3 D224 C-K
Gene Farmer, 12-109 SB-K
O. P. Thornton, W3 D224 C-K
R. O. Barnett, W9 D224 C-K

This was prepared principally by D. R. Galloway, extension 4359

BC/PM: OPT/706

MO: _____

R86119.05



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TVA-00005842

TENNESSEE VALLEY AUTHORITY

OFFICE OF POWER

POWER ENGINEERING
FOSSIL ENGINEERING PROJECT

INSPECTION OF

KINGSTON STEAM PLANT

ASH DISPOSAL AREAS

JOINT PE-F&H PR

INSPECTION

INSPECTED: April 10, 1986



FEP REPORT

TVA 10752 (OE 6-85)

TITLE KINGSTON STEAM PLANT - ALL UNITS - ANNUAL JOINT INSPECTION BY THE DIVISION OF POWER ENGINEERING AND CONSTRUCTION AND THE DIVISION OF FOSSIL AND HYDRO POWER		REPORT NO. FEP-ASH-86-6		PLANT/UNIT KINGSTON STEAM	
		SAR SECTIONS			
		VENDOR		CONTRACT NO.	KEY NOUNS
		REV	(FOR RIMS USE)	RIMS ACCESSION NUMBER	
		R0		B65 '86 0520 009	
APPLICABLE DESIGN DOCUMENTS		R1			
		R2			
REFERENCES		R3			
		R4			

**TENNESSEE VALLEY AUTHORITY
OFFICE OF POWER
FOSSIL ENGINEERING PROJECT**

	REVISION 0	R1	R2	R3	R4
DATE	MAY 20 1986				
PREPARED	<i>Donald R. Hollaway</i>				
CHECKED	<i>William Sluis</i>				
REVIEWED	<i>K. W. Burnett</i>				
APPROVED	<i>R. E. Harris</i> <i>O. P. Thornton/H</i>				

cc: RIMS, SL26 C-K

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

B65 '86 0520 009

TO : R. E. Harris, Civil Project Engineer, Fossil Engineering Projects,
W2 D220 C-K

FROM : D. R. Galloway, Civil Engineer, Fossil Engineering Projects, W2 D209 C-K

DATE : MAY 20 1986

SUBJECT: KINGSTON STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

1.0 General

1.1 This joint Power Engineering (PE) - Fossil and Hydro Power (F&H PR) inspection of the ash disposal areas was conducted on April 10, 1986, by the following personnel:

D. R. Galloway - PE (FEP)
Barbara Adkins - Div. Nuclear Power
John Albright - Div. Power Chattanooga
Ed McClung - Kingston Steam Plant

1.2 Our findings were discussed with the assistant plant superintendent, Randy Cole. We also discussed the broad scope of future planning and utilization of waste disposal areas.

1.3 The last annual inspection was made on April 17, 1985 (B65 850711 006).

1.4 The different areas referenced in the report are designated on the attached print of drawing 10N420.

2.0 Change in Dikes Since Last Inspection

2.1 There have been no major changes in the dikes since the last annual inspection. The berm along the south dike has been graded and will be seeded in the near future.

2.2 The acidic drainage is still evident along the slopes of the southeast dike. While the seepage at the east end has subsided (picture No. 1), due to the interceptor ditch formed at the base of the ash stack (picture No. 2), the seepage at the east end of the south dike was quite evident (picture No. 3).

2.3 A redwater treatment plan was prepared in March of this year. This uses an engineered wetlands method for corrective measure of the acidic drainage collected in this area.

2.4 No change was noted in the wet areas along the berm of dike "C." As reported in last year's inspection, a repair scheme has been submitted to the Division of Power, Chattanooga for the south end repair. (Estimate is for 400 linear feet.)

2.5 Dike "C" has a few small trees and undersirable vegetation on the berm adjacent to the Emory River (see 6.1).

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KINGSTON STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

2.6 The divider dike appears to be stable but some minor erosion along the slopes was observed.

3.0 Change in Pond Operation Since Last Inspection

3.1 The internal dredge pond dikes are being raised several feet in preparation for future storage by dredging (picture No. 4) (see 6.2).

3.2 A finger dike has been constructed of ash extending several hundred feet southeast of the dike adjacent to Swan Pond Road.

3.3 An ash deflector dike has been constructed at the exit of the bottom ash channel to divert the runoff to the west portion of the pond.

3.4 The rubber-lined fly ash discharge trench appears to be functioning properly and it has an excellent riprapped outfall ditch (picture No. 5).

3.5 An earth cover is being placed over the ash dike adjacent and interior to dike "C" (picture No. 6). Seeding will begin upon the completion of final grading. (See 6.3.)

4.0 Condition of Spillways, Skimmers, and Outlets

4.1 Five of the six standard spillways and skimmers in the stilling pool area appear to be in good condition and functioning properly. The spillway on the west end has been raised one section higher than the other spillways and is not discharging. The outlet area for these spillways has a good riprap cover, and the concrete headwall appears to be in good condition. There is no sign of loss of ash into the plant intake channel.

4.2 The plant constructed spillways and skimmers, discharging water from the pond area into the stilling pool area, appear to be in good condition and functioning properly.

5.0 Action on Recommendations of Last Inspection

5.1 All items have been or they are in the process of being addressed from the last inspection.

R86119.05

R. E. Harris

MAY 20 1986

KINGSTON STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

6.0 Recommendations

- 6.1 The lower exterior berm should be mowed to enhance a more effective visual inspection. All undesirable vegetation should be removed by use of chain or cable so as to pull the root system from the earth.
- 6.2 While the raising of internal dikes may be essential for the storage of ash due to ever decreasing available space, these dikes should be analyzed for structural stability.
- 6.3 Final grading should insure a proper ditch gradient such that no standing water is permitted.

D. R. Galloway

 D. R. Galloway

Concur

R. E. Harris

 R. E. Harris

J. A. Benedict

 O. P. Thornton

KWB DRG:SMV

Attachments

cc (Attachments):

RIMS, SL 26 C-K (w/o drawings)

R. O. Barnett, W9 D224 C-K

G. L. Buchanan, W3 C126 C-K

O. P. Thornton, W3 D224 C-K

This was prepared principally by D. R. Galloway, extension 4359.

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*KINGSTON STEAM PLANT
APRIL 1986*



① *REDWATER SEEPAGE AT
INTAKE CHANNEL.*

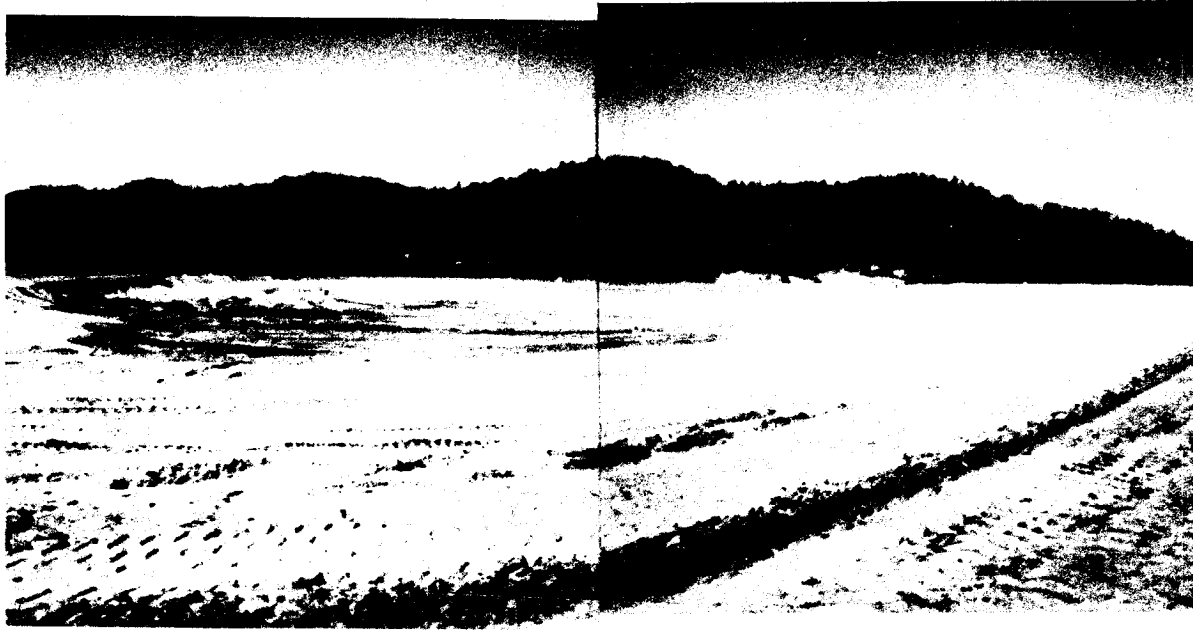


② *REDWATER INTERCEPTOR/
DIVERSION DITCH.*



③ *REDWATER SEEPAGE AT
INTAKE CHANNEL AND SOUTH
ASH DIKE.*

KINGSTON STEAM PLANT
APRIL 1986



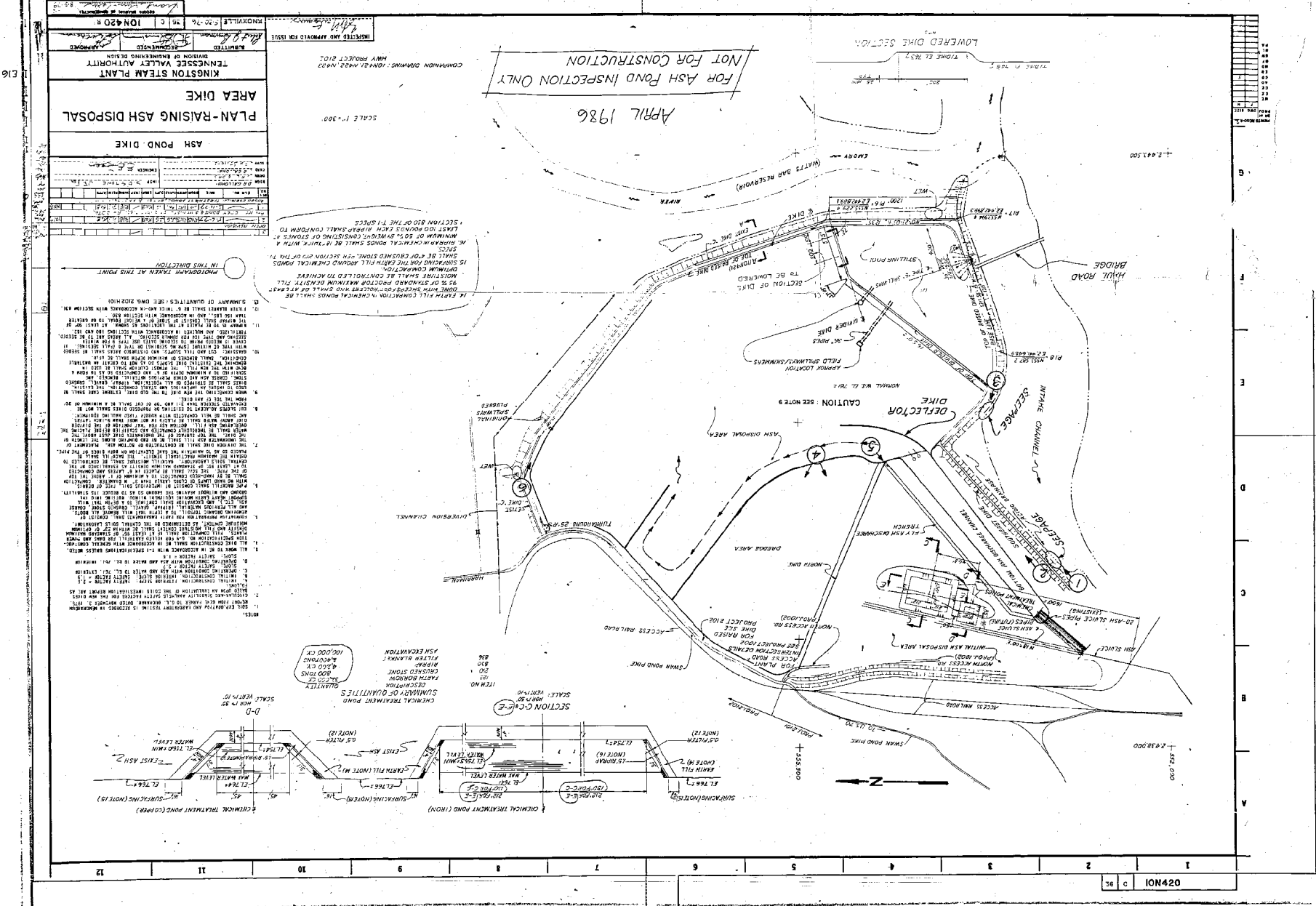
4 DREDGE POND NORTH AREA.



5 FLY ASH DISCHARGE
CHANNEL.



6 EARTH COVER OVER ASH
ALONG INTERIOR OF L.S.C.



1. THE POND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AND DETAILS SHOWN ON THIS PLAN AND THE SPECIFICATIONS AND DETAILS OF THE LOWERED DIKE SECTION.
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