

FEDERAL REPUBLIC OF NIGERIA

NATIONAL ELECTRIC POWER AUTHORITY



Jebba Hydroelectric Development

CONTRACT NO. 14 NEP 5838-8

FOR

GENERAL CIVIL WORKS

SANCTION NO. 42-104-02-14

VOLUME I

January 31, 1979

Approved by:

Project Manager:

Engineering Manager:

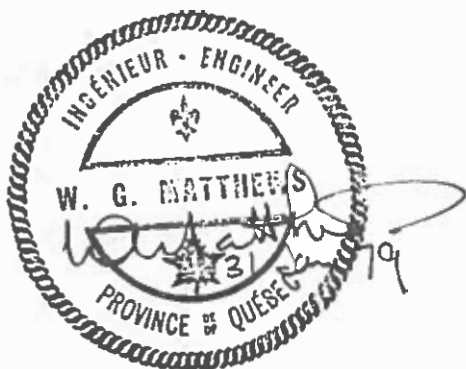
Project Services:

RPH Construction:

Hydraulics/Civil:

Electrical:

[Handwritten signatures and dates for each role]



(PID) =>



MONTREAL ENGINEERING COMPANY, LIMITED

P.O. Box 6088, Postal Station A, Montreal, Canada, H3C 3Z8

Lunch & Learn

The Jebba Hydroelectric Project

Boundless Energy



Safety Moment

“Office Hazards”

Construction Sites

- Wear protective equipment
- Be safety mindful at all times
- Look out for others !!!

Jebba Project: Some points of interest

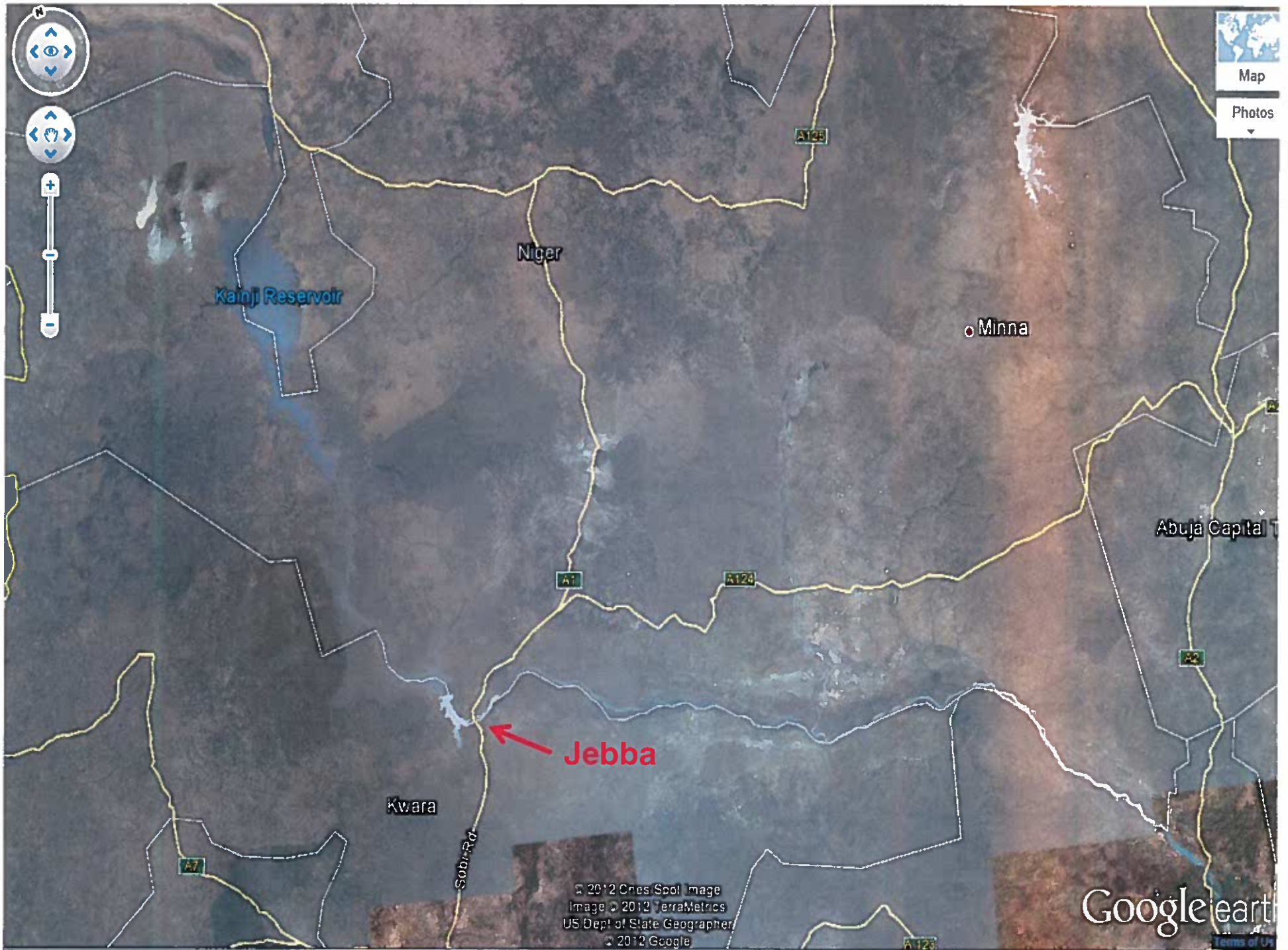
- Project located in Nigeria, West Africa
- Constructed ~ 1980 – 1986
- Client: National Electric Power Authority (NEPA)
- (EPCM Consultant): Montreal Engineering Company





LOWER CHURCHILL PROJECT







Some points of interest (cont'd)

CONCRETE VOLUMES (M3)

M. Falls		Jebba	
INTAKE	147,000	INTAKE	115,000
POWERHOUSE	172,000	POWERHOUSE	110,000
SPILLWAY	73,000	SPILLWAY	90,000
DAMS (Transitions / Walls)	80,000	DAMS (Auxiliary)	60,000
		NAVIGATION LOCK	124,000
TOTAL: REINFORCED CONCRETE	472,000		499,000
North Dam: (Roller Compacted Concrete)	190,999		
TOTAL	662,999		499,000

Powerhouse / Intake

- ~ 225,000 cubic meters of reinforced concrete
- 6 each propeller turbines, ~ 30 m head
- 93.5 MW capacity each
- 560 MW total capacity



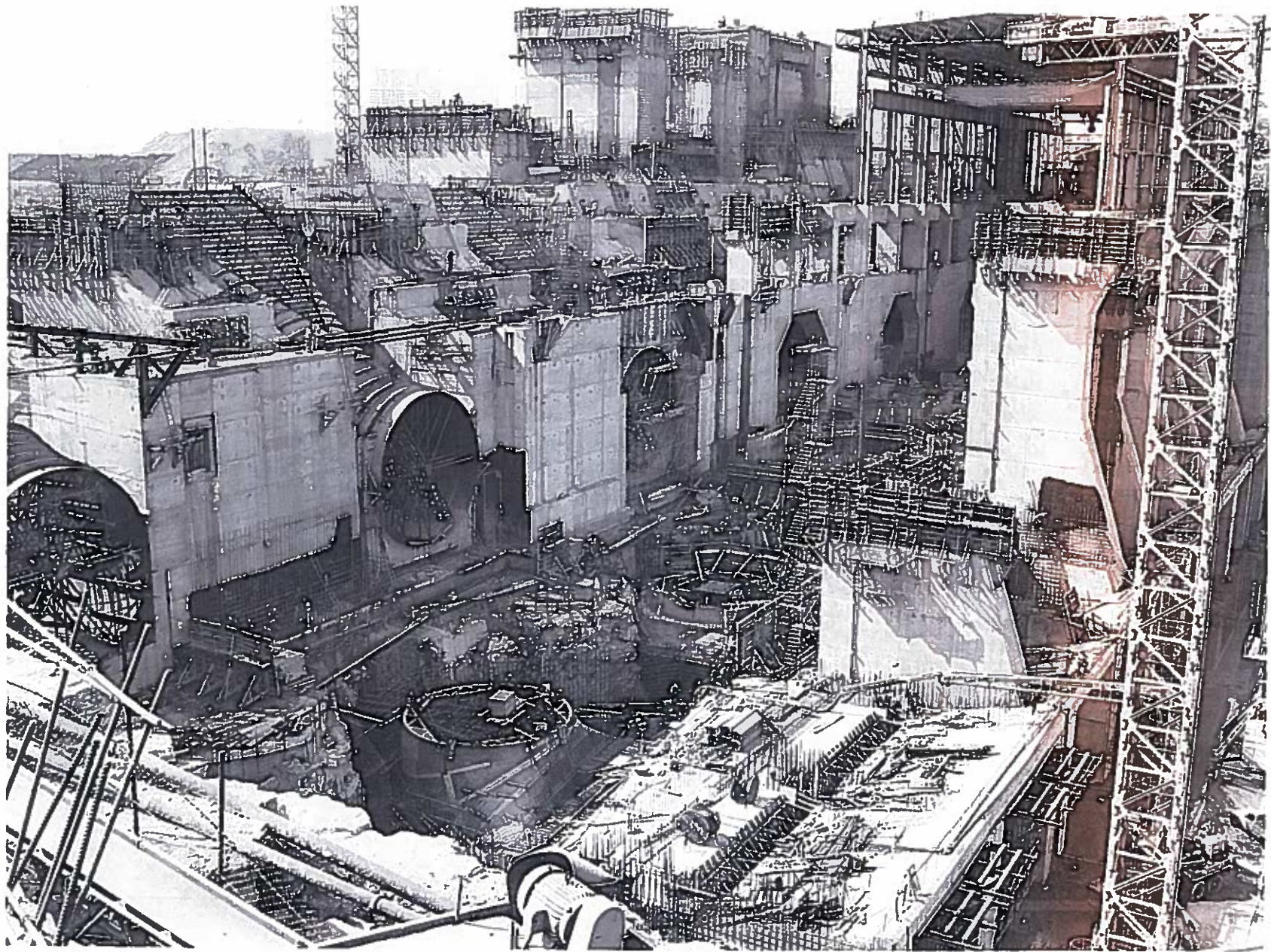




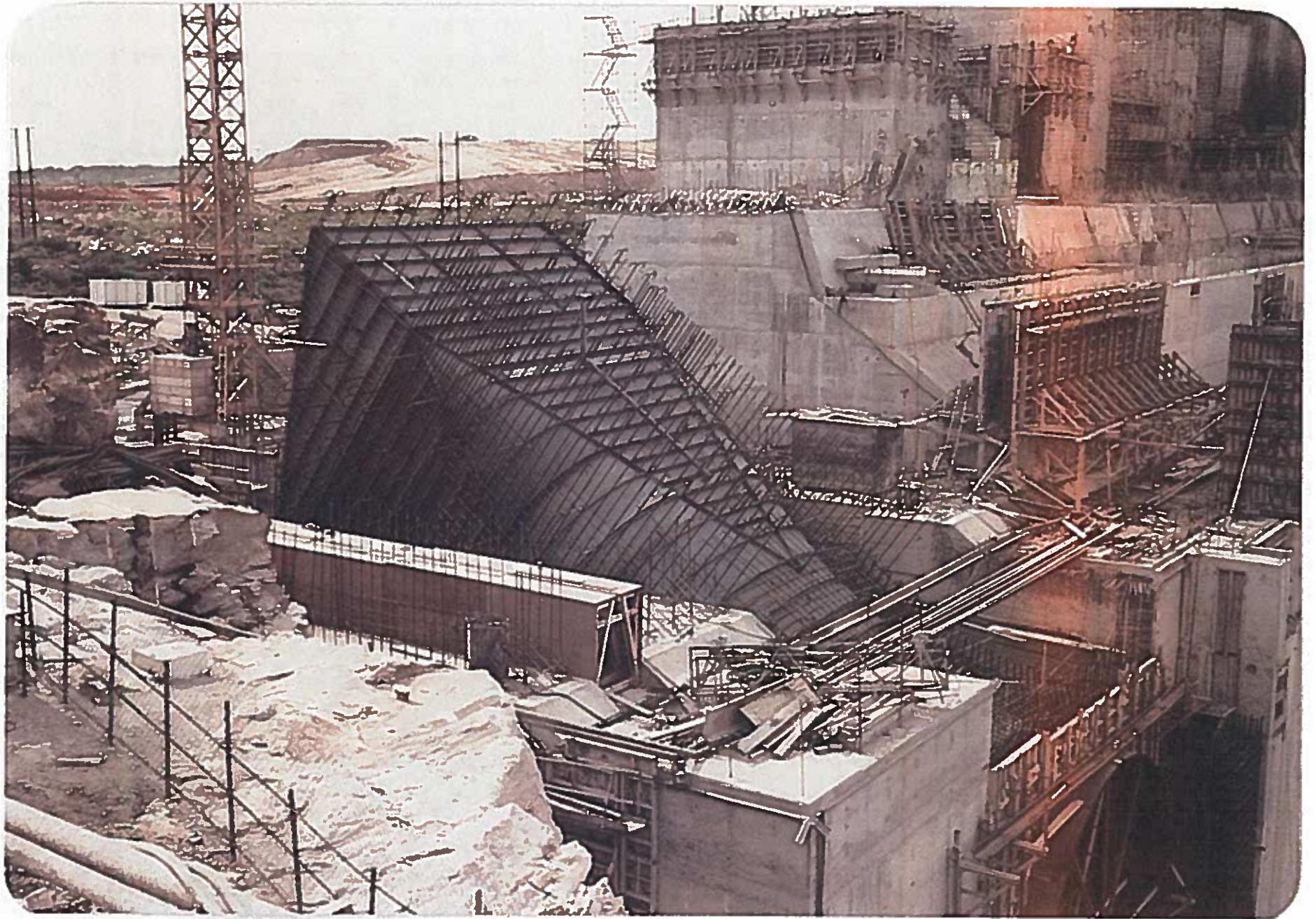


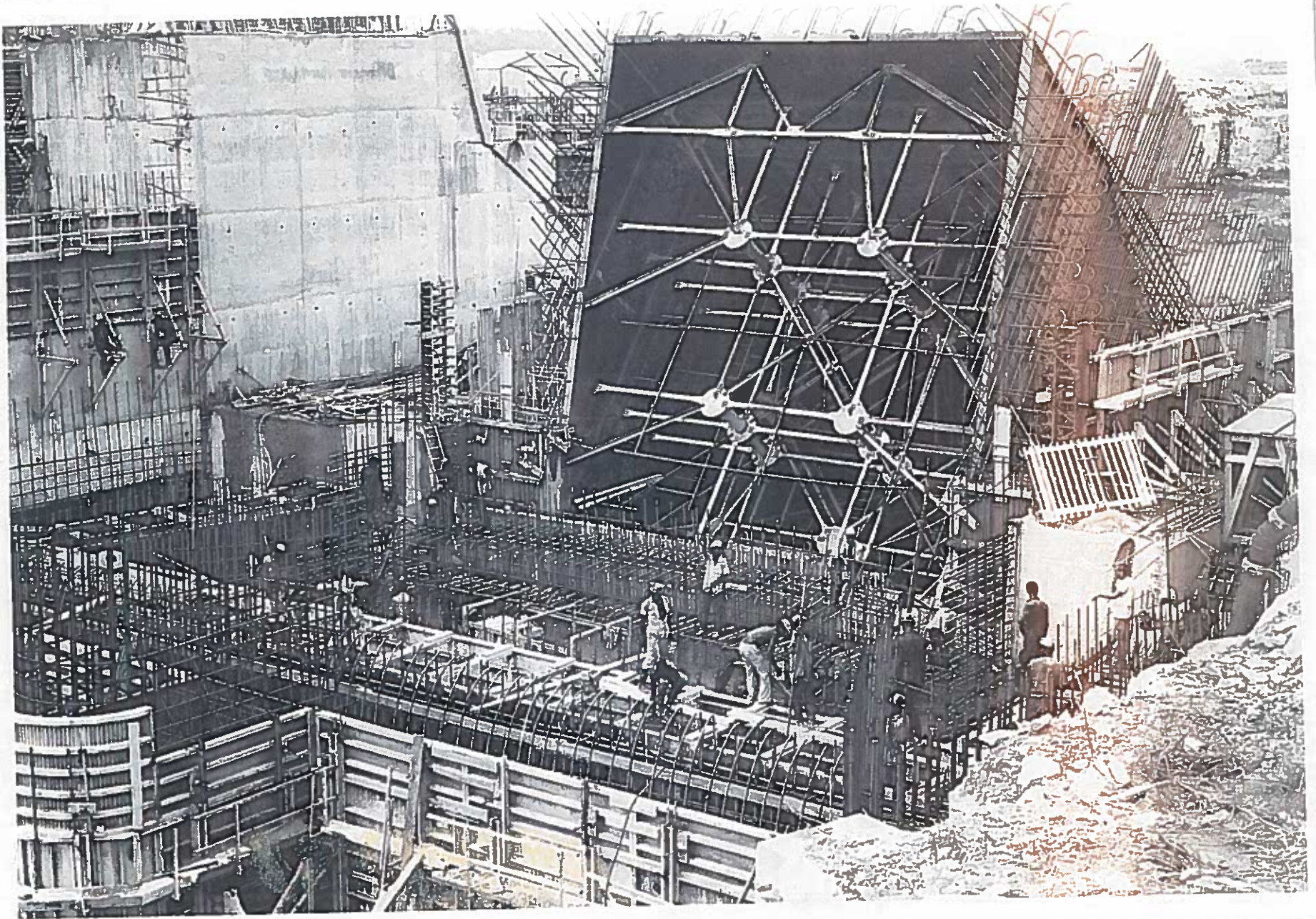


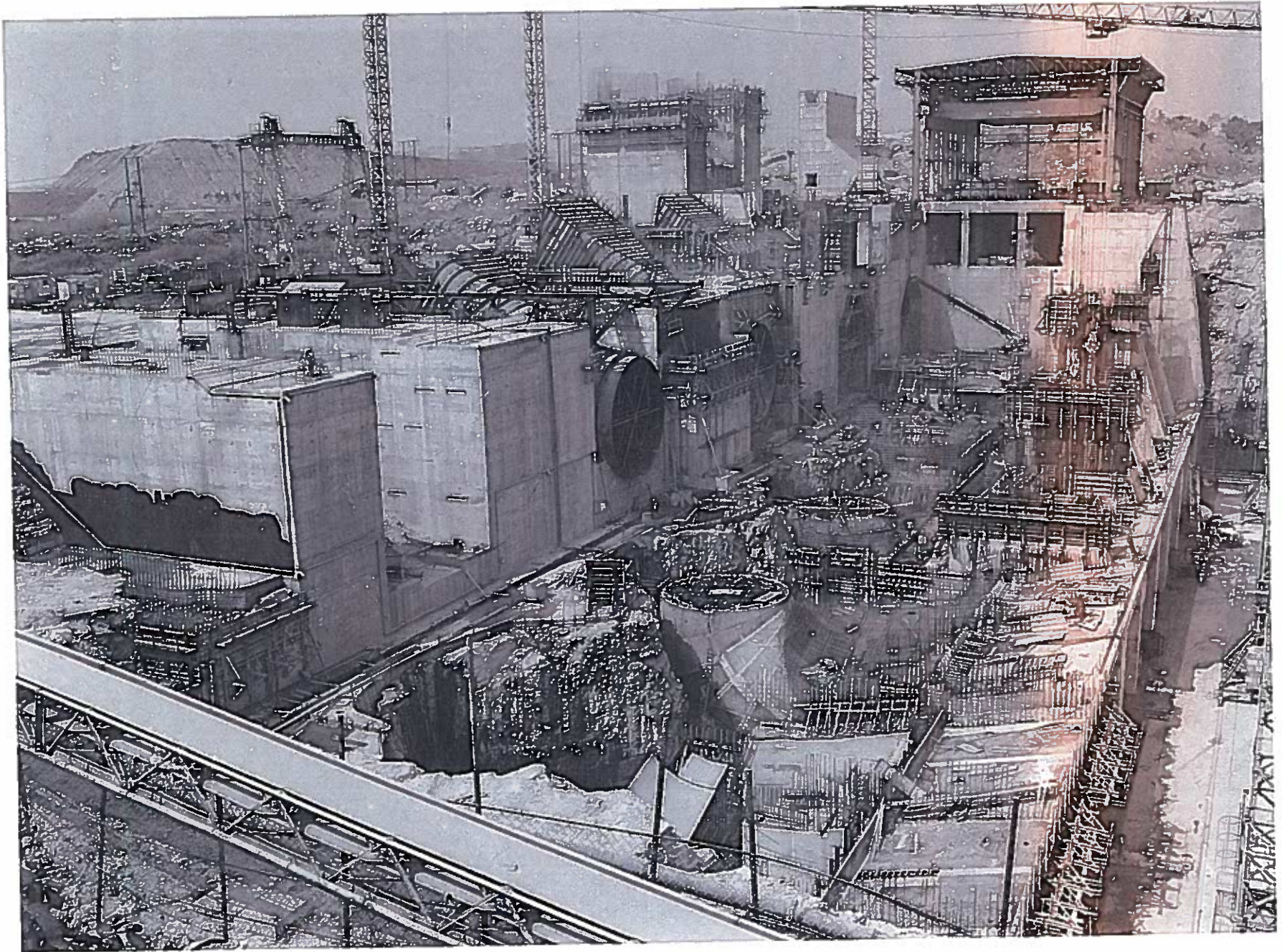












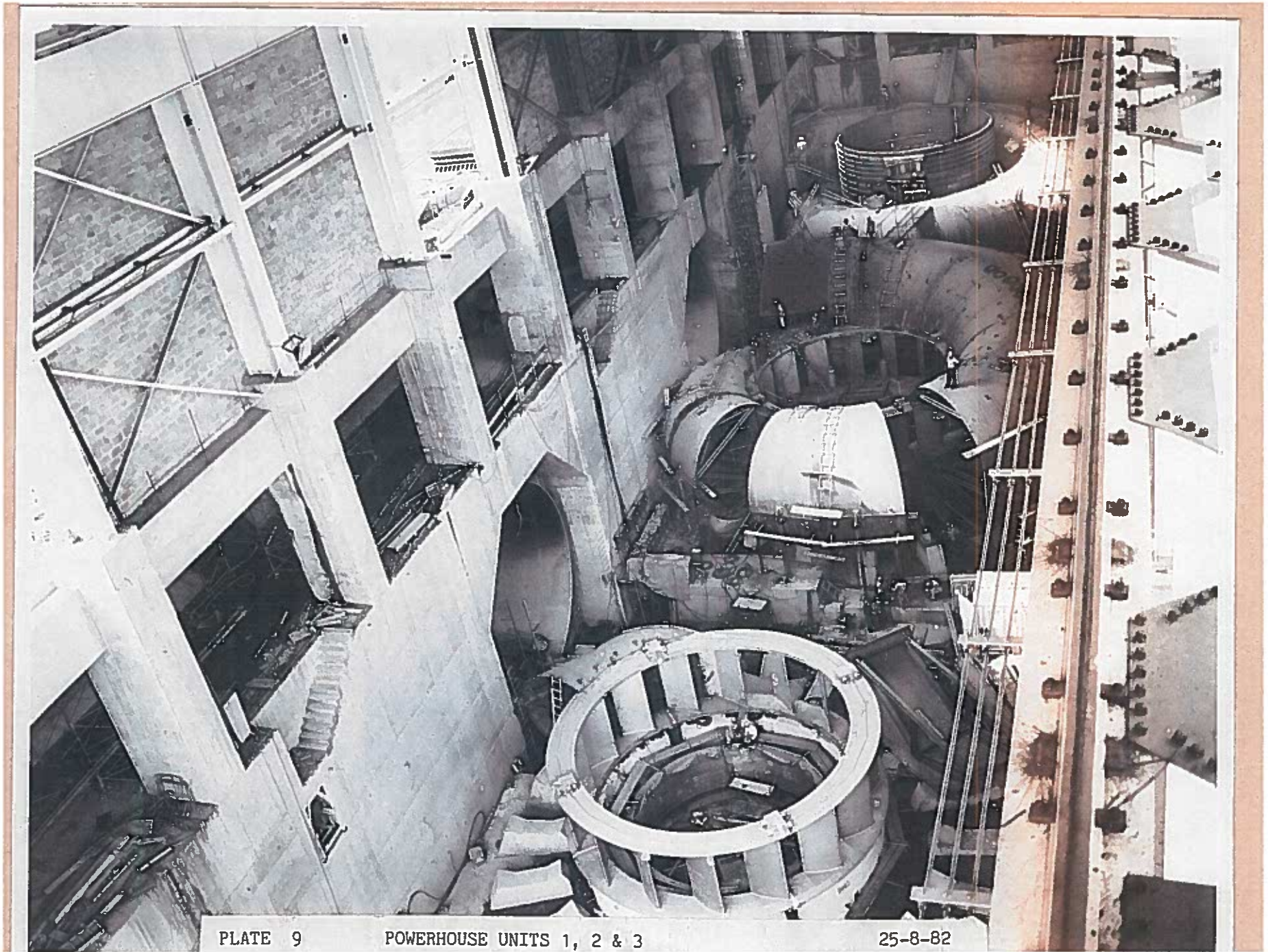


PLATE 9

POWERHOUSE UNITS 1, 2 & 3

25-8-82

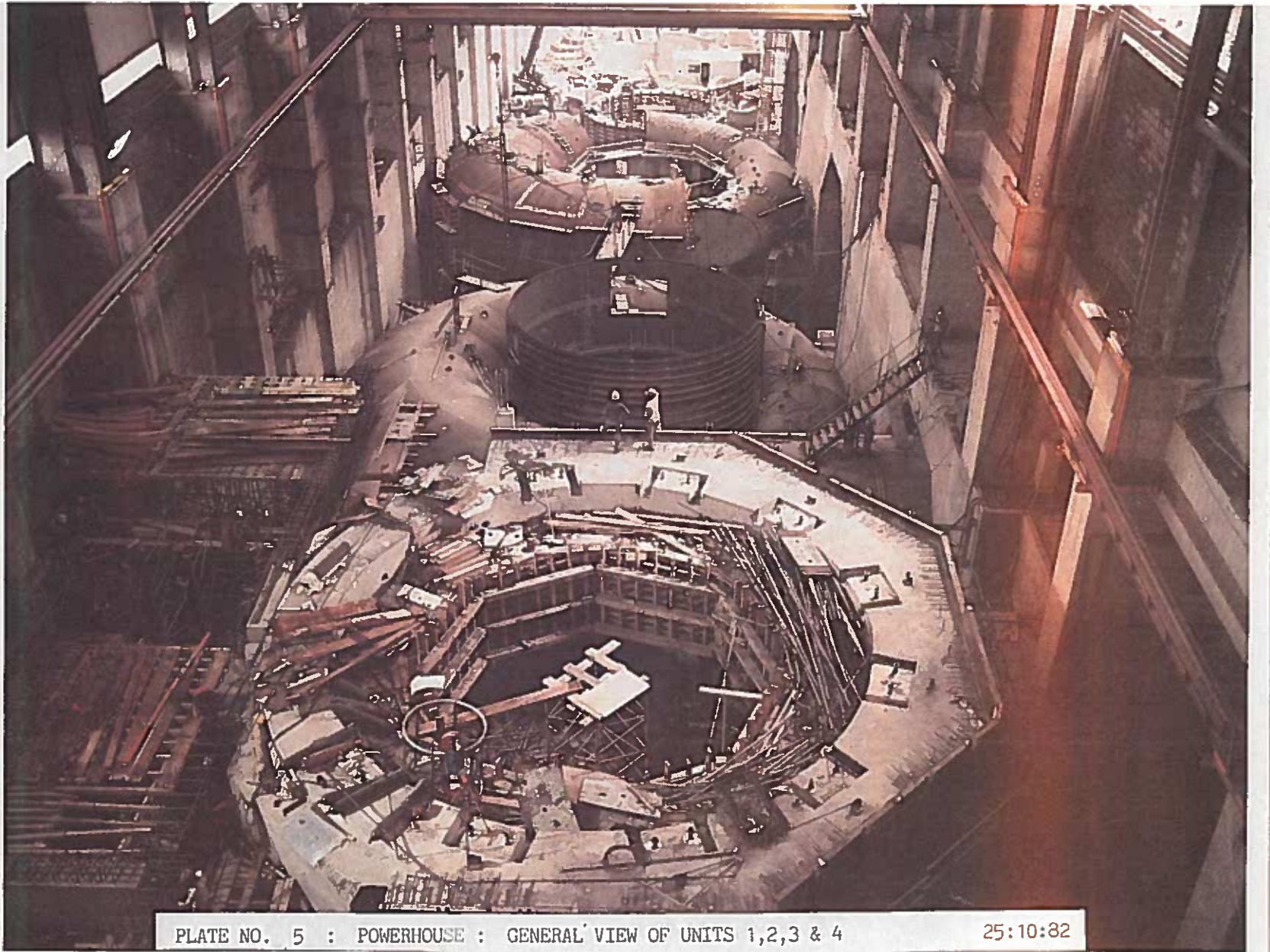
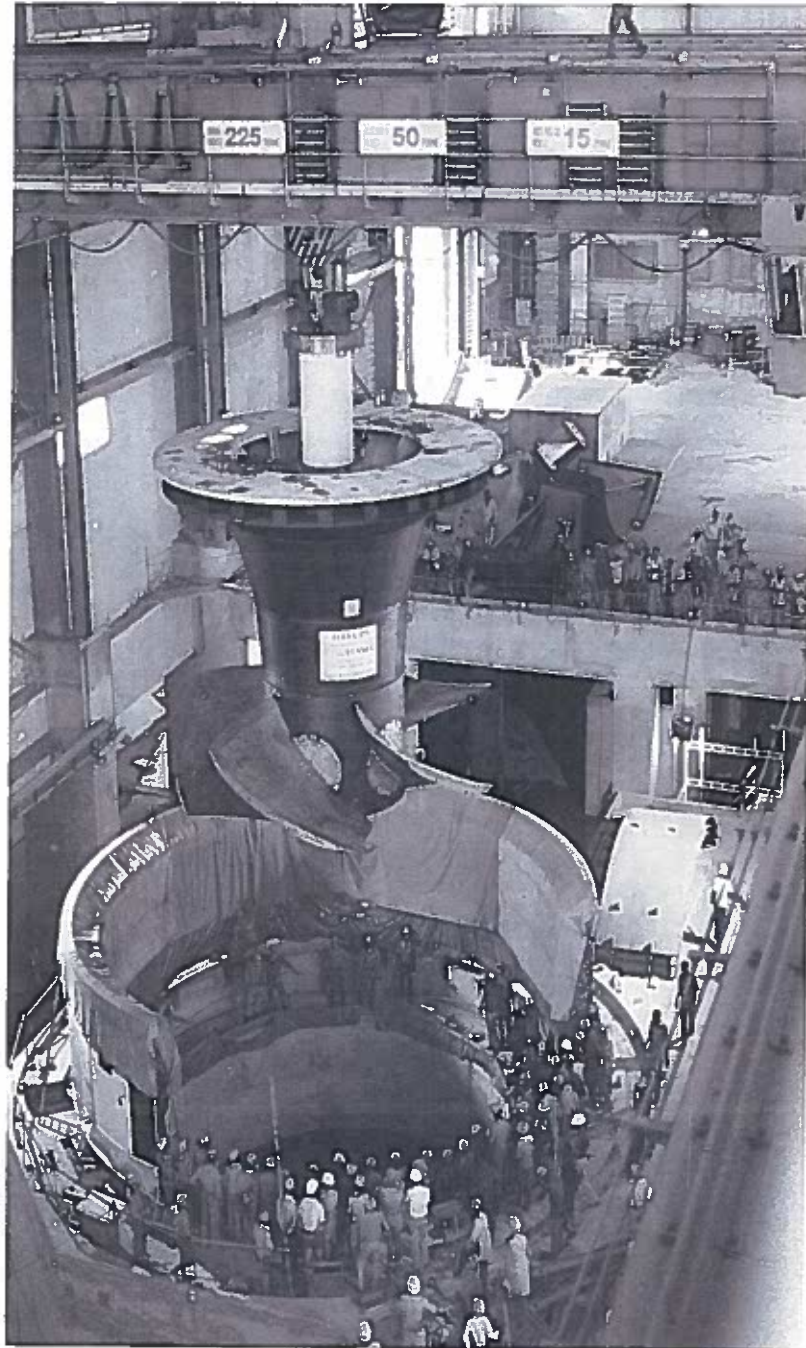


PLATE NO. 5 : POWERHOUSE : GENERAL VIEW OF UNITS 1,2,3 & 4

25:10:82

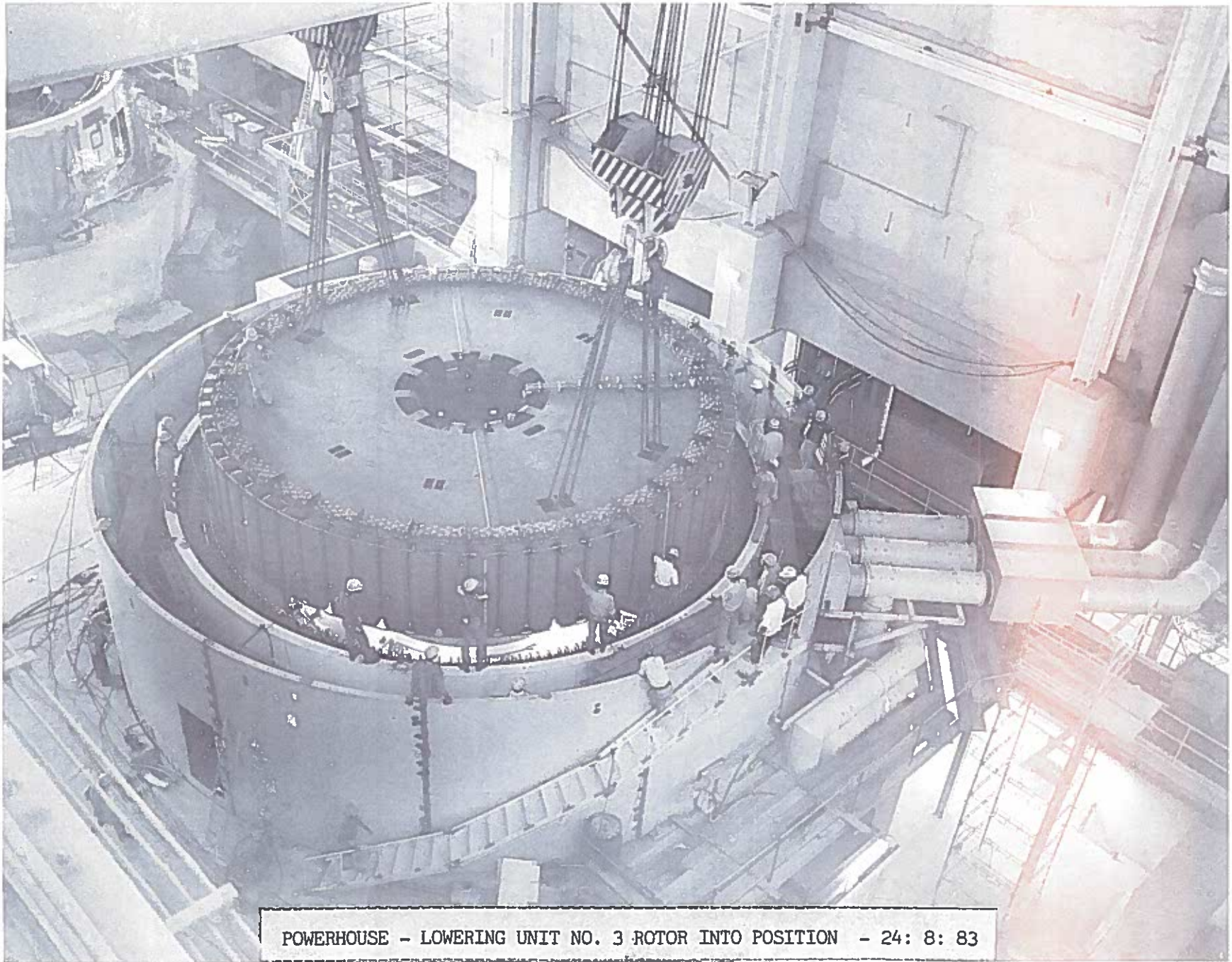


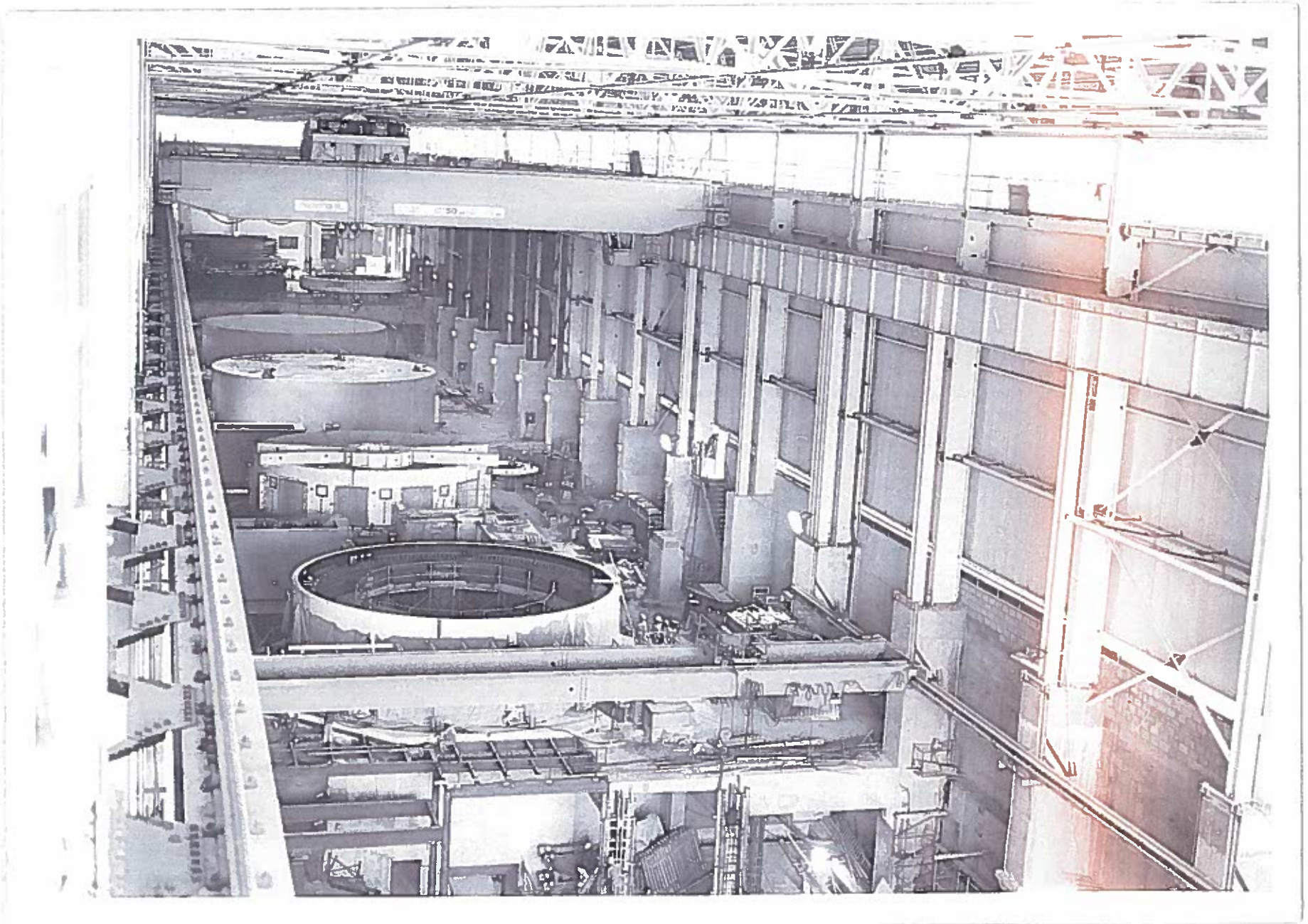
LOWER CHURCHILL PRC

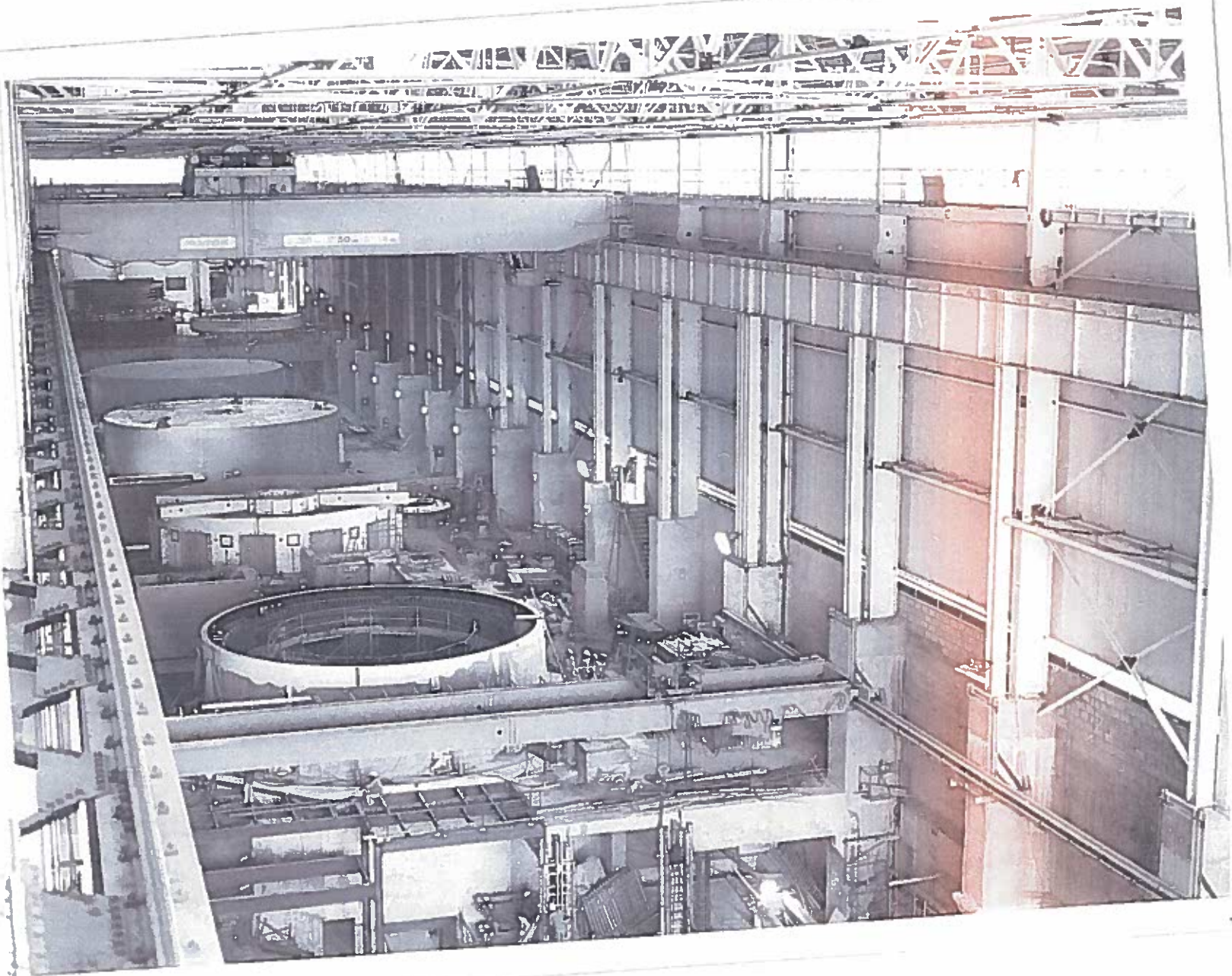


LOWER CHURCH





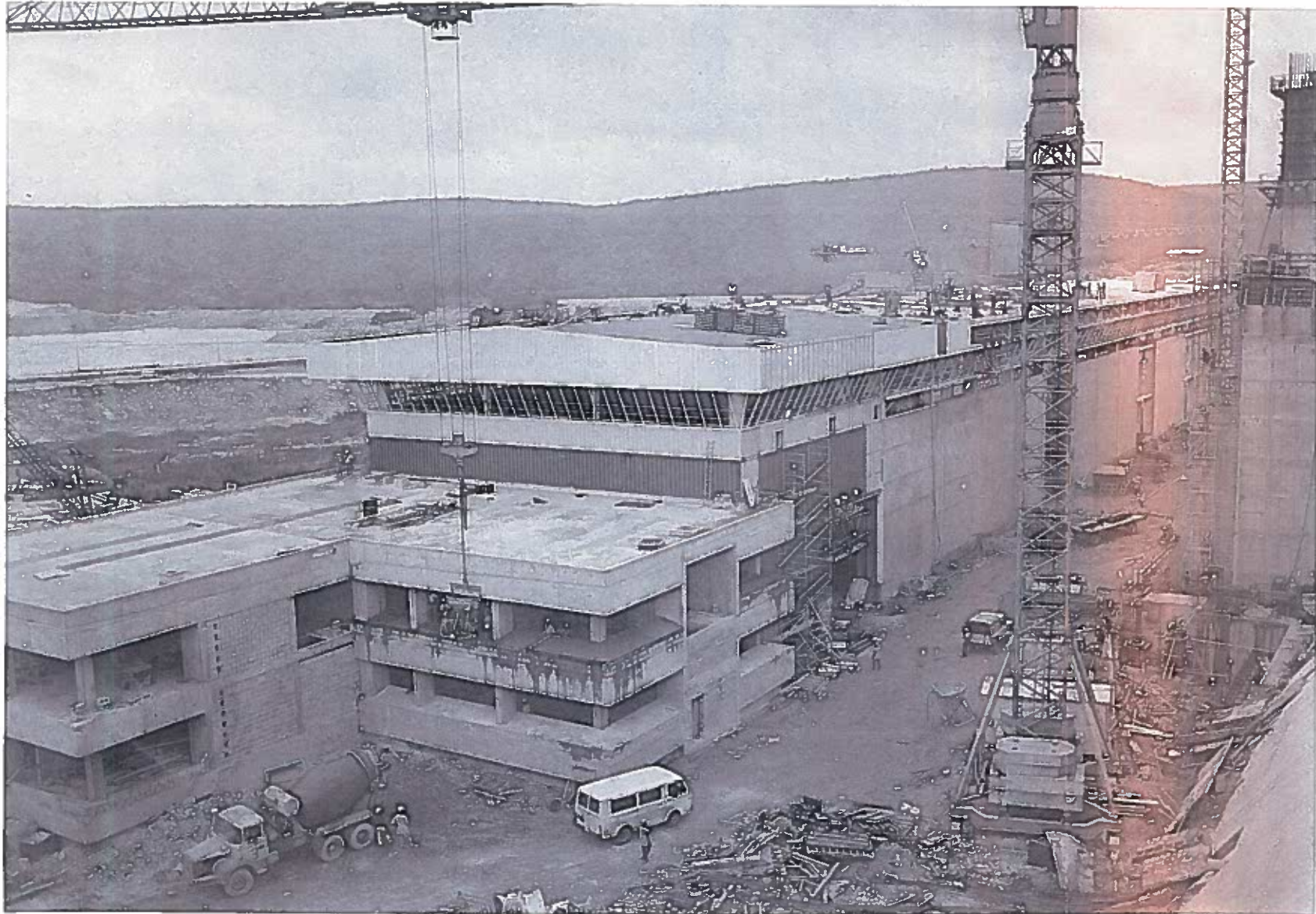






POWERHOUSE - UNITS NO. 4 - 1 - LOOKING NORTH

: 16 : 1 : 84



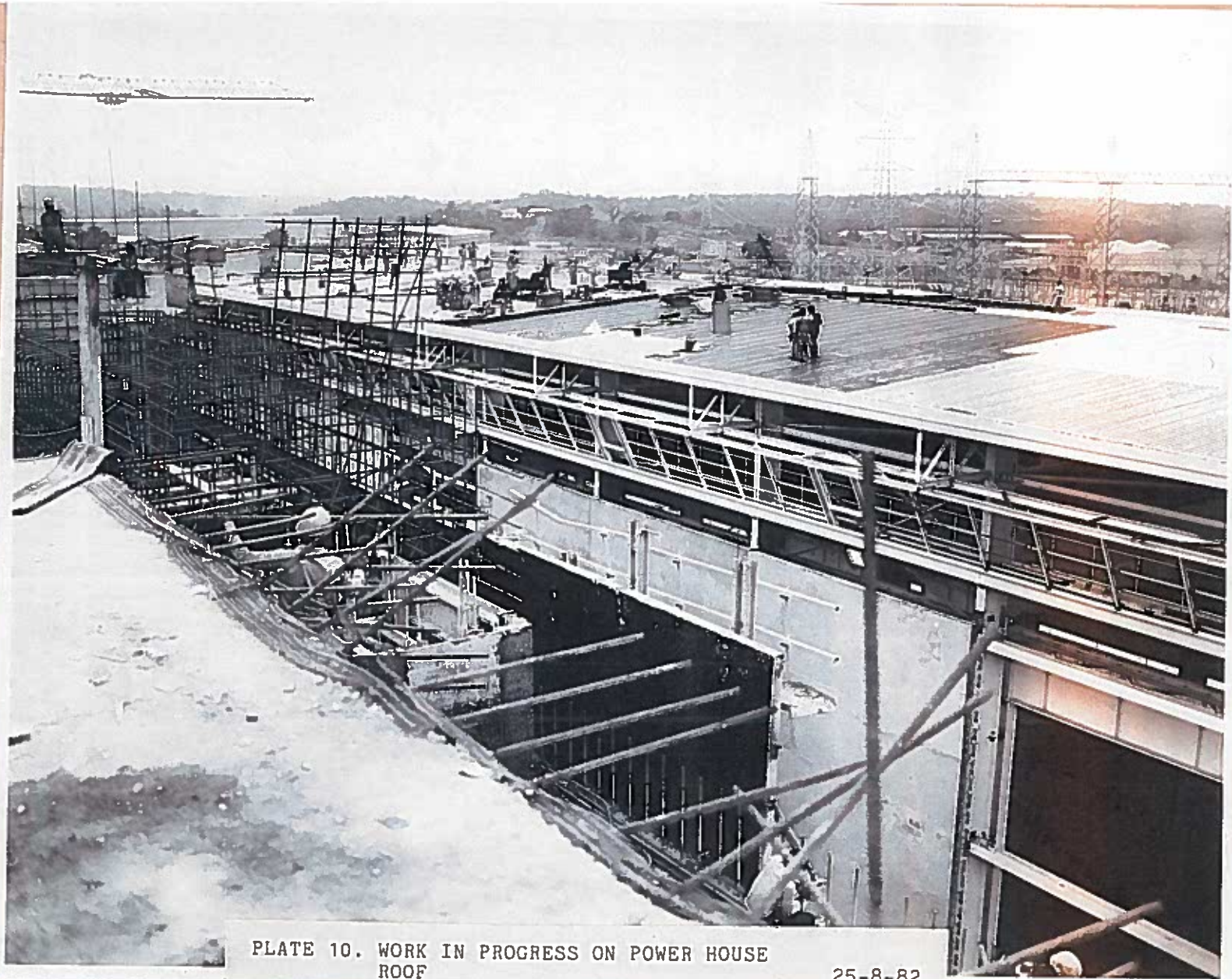
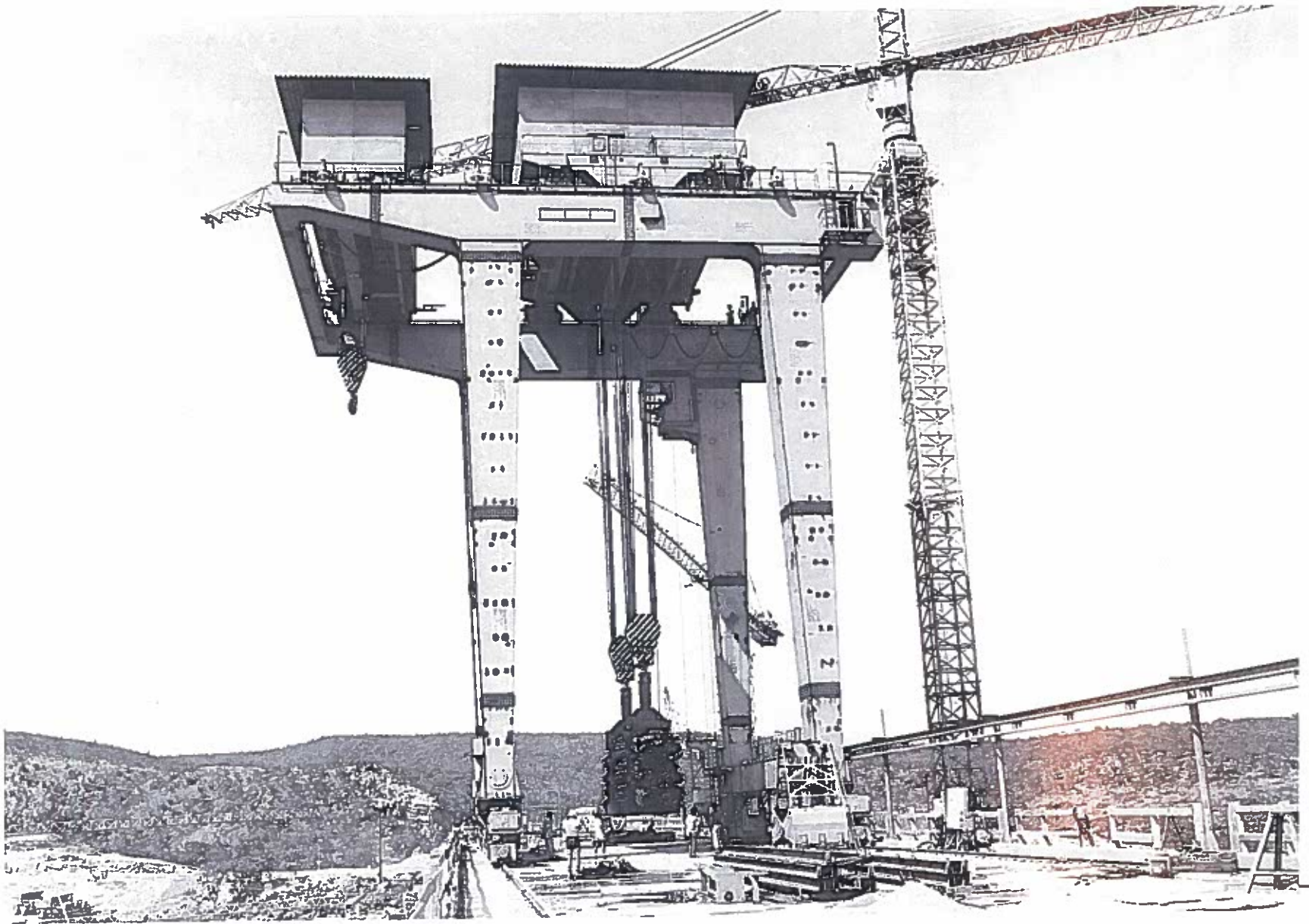


PLATE 10. WORK IN PROGRESS ON POWER HOUSE
ROOF

25-8-82





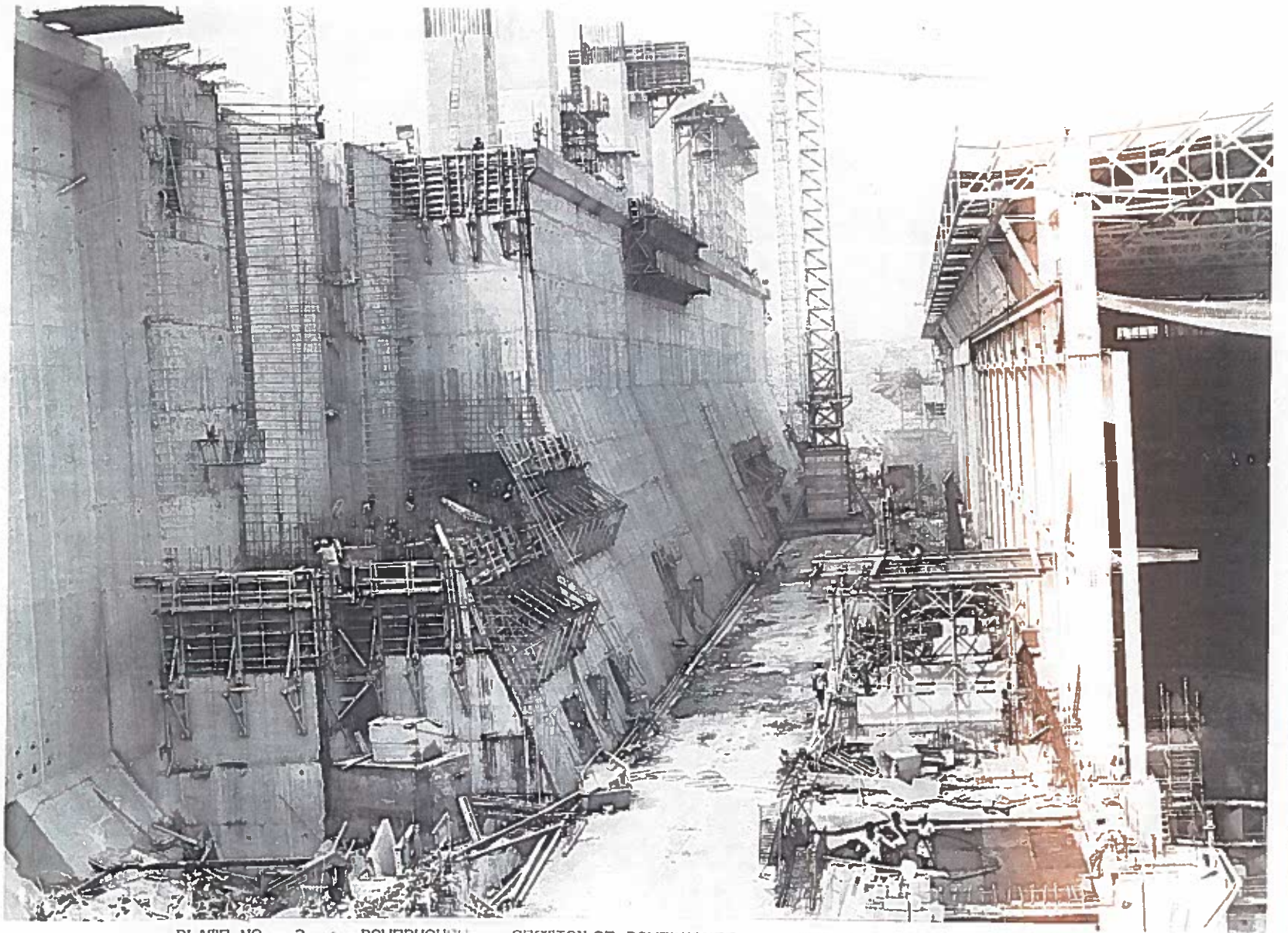


PLATE NO. 3 : POWERHOUSE : SECTION OF POWERHOUSE AND INTAKE

25:11:82

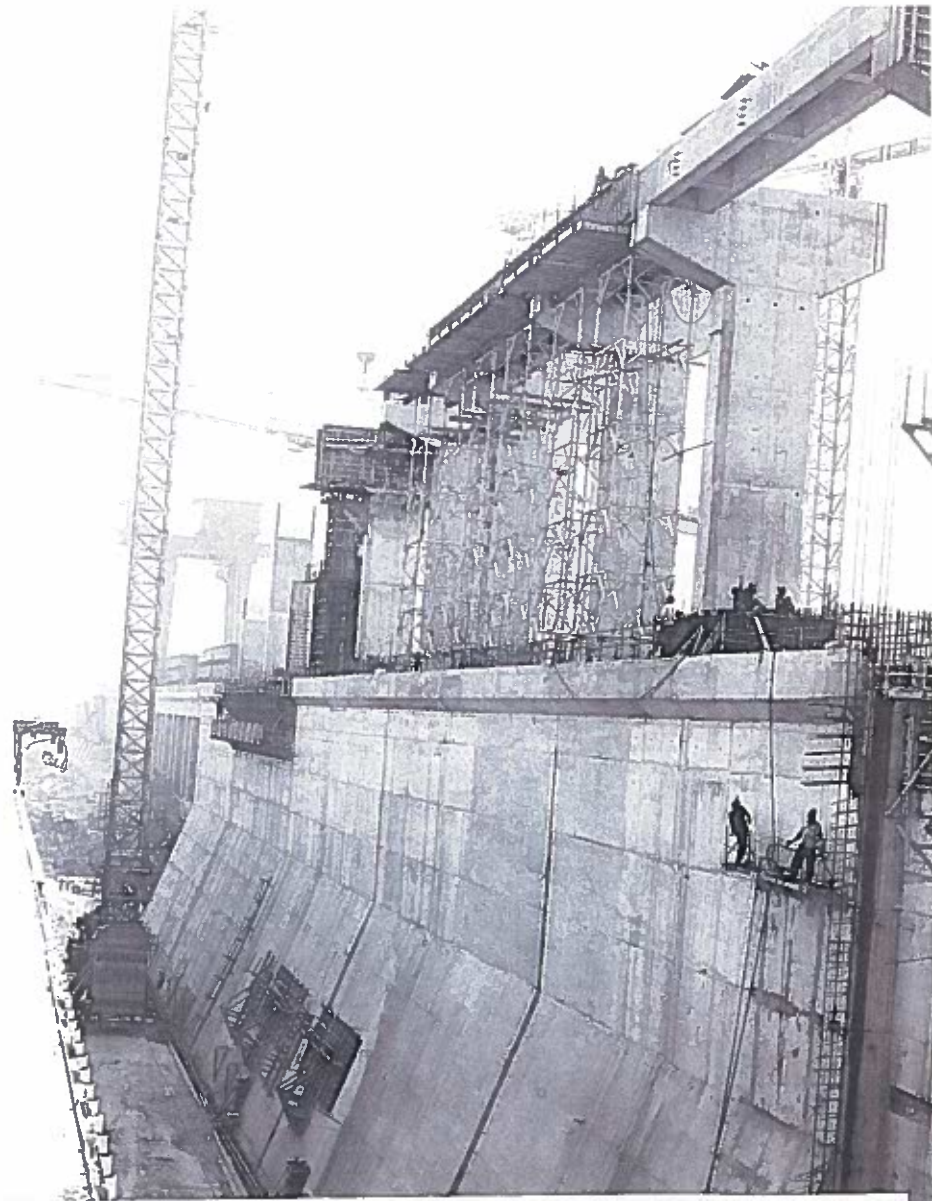


PLATE NO. 14 : GENERAL VIEW OF INTAKE, AUXILIARY DAM NO. 3 AND SPILLWAY 22:11:82

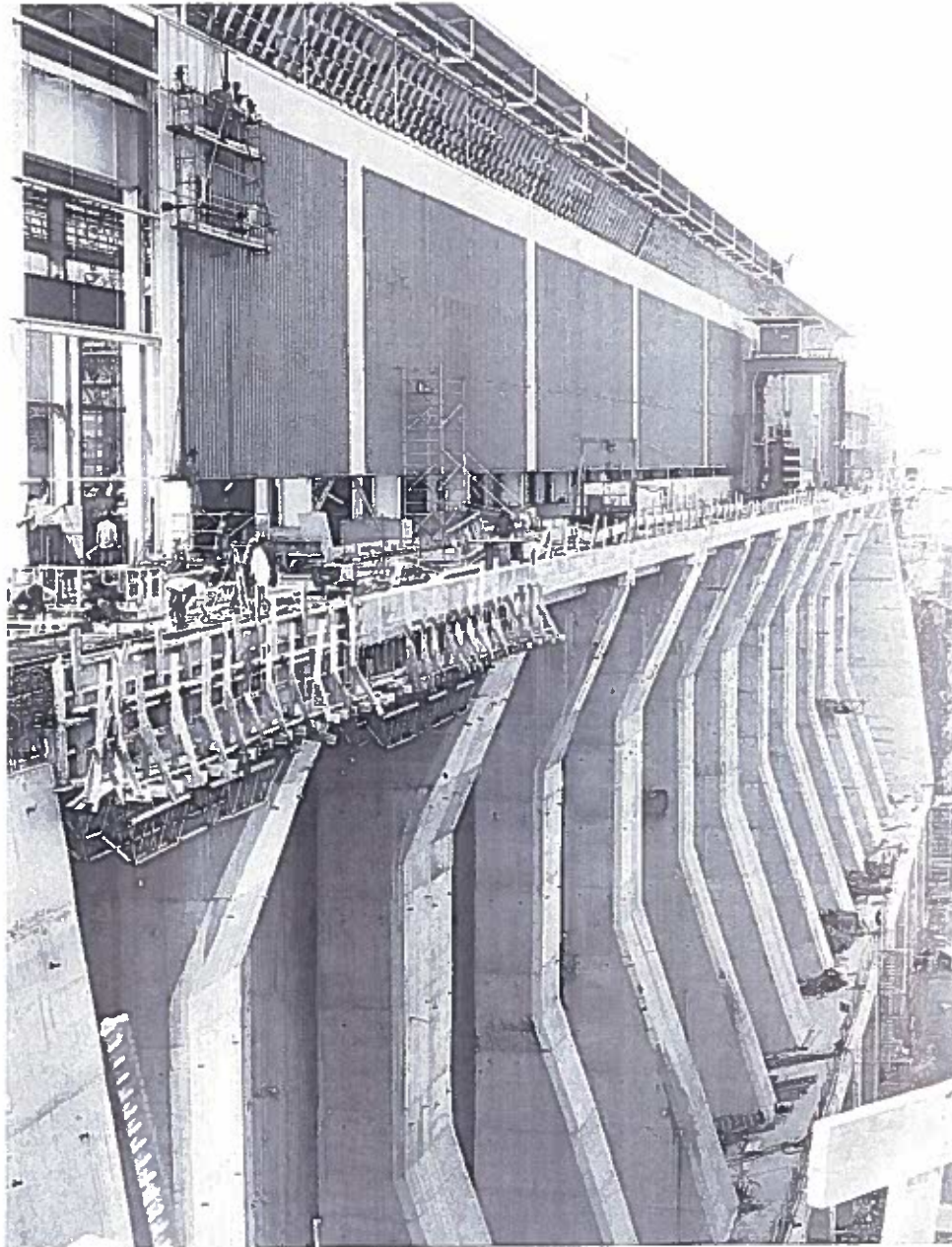
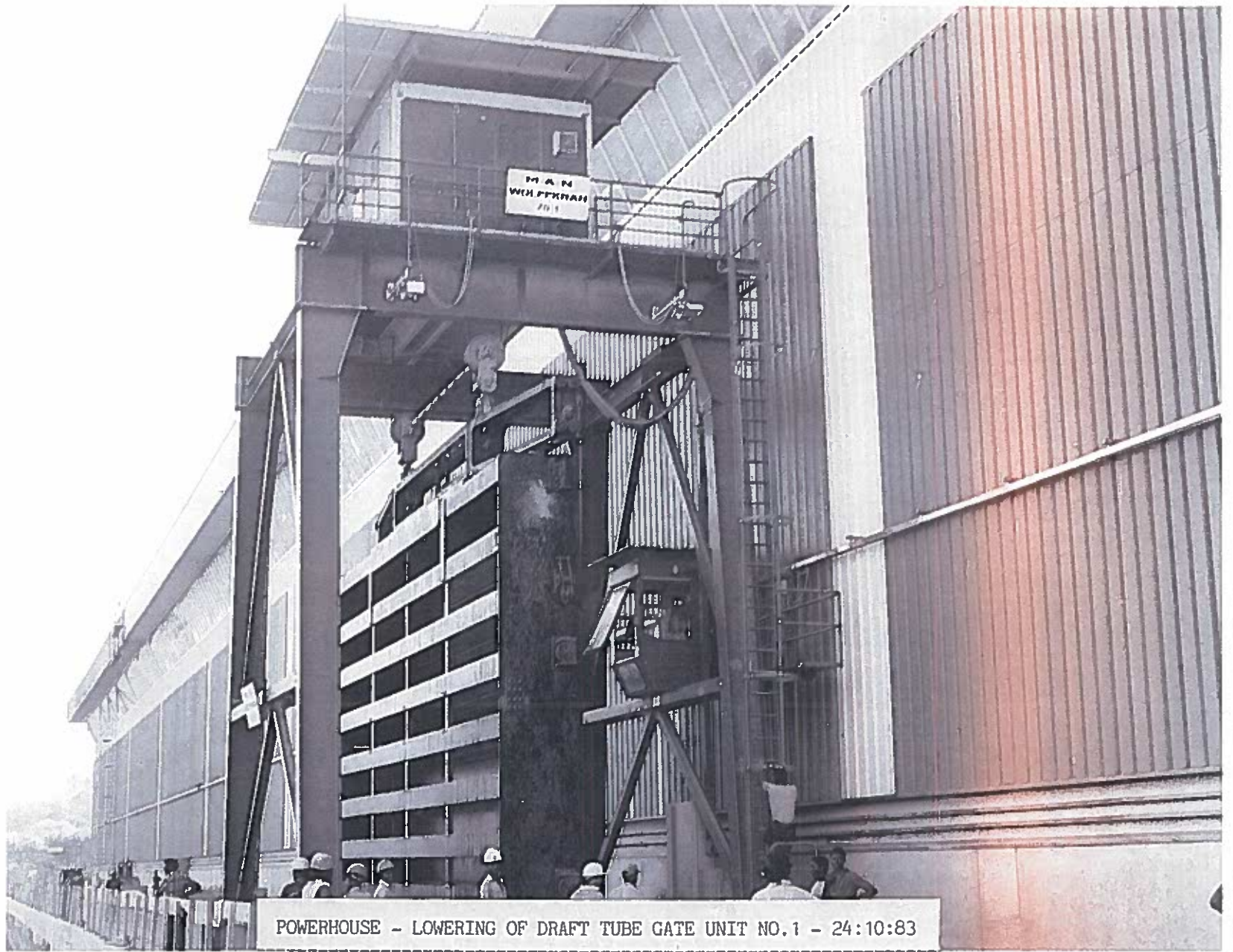


PLATE NO. 4 : POWERHOUSE : GENERAL VIEW FROM BATCHING PLANT

25:11:82

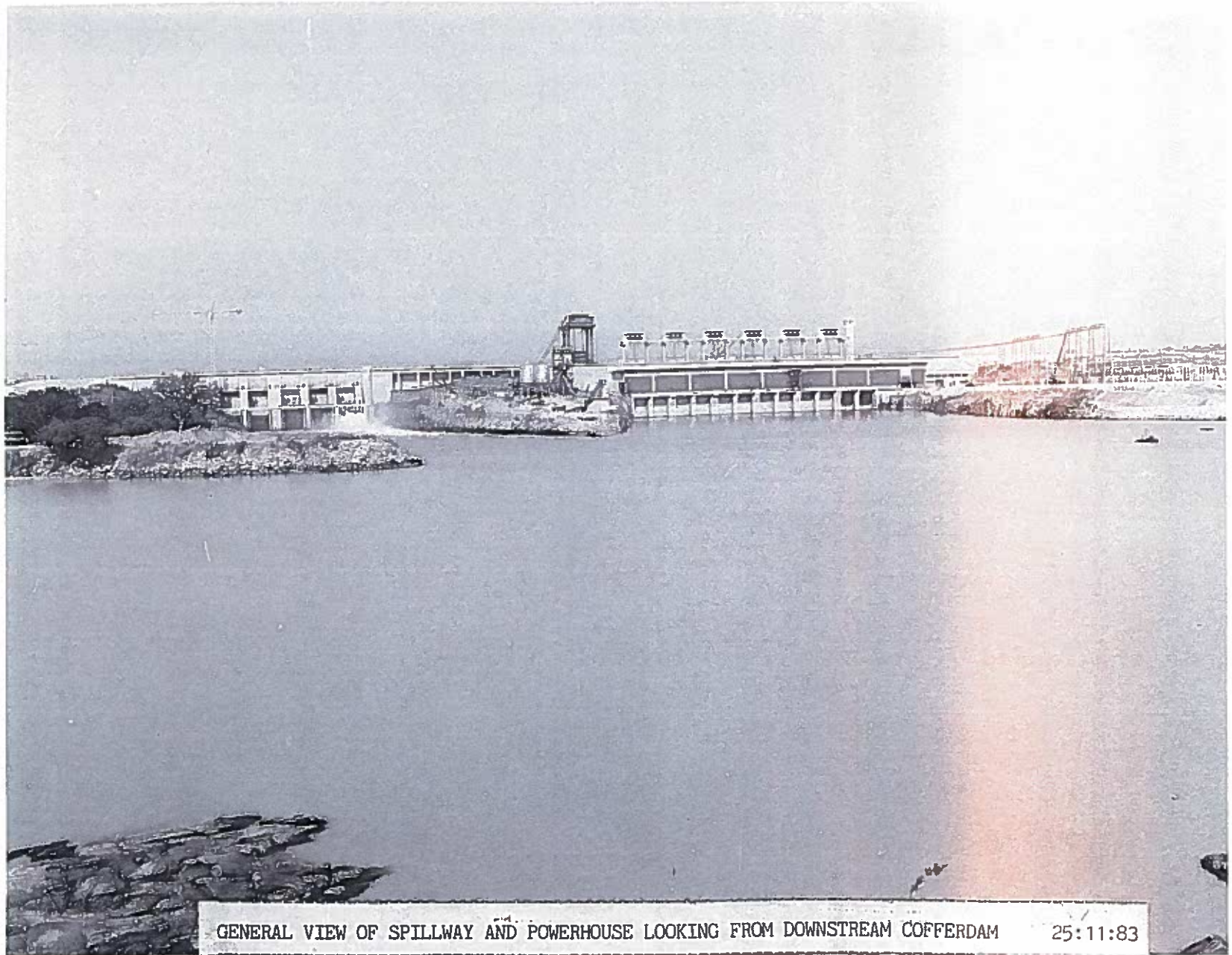


POWERHOUSE - LOWERING OF DRAFT TUBE GATE UNIT NO. 1 - 24:10:83





INTAKE - LOOKING FROM UPSTREAM - 28:10:83



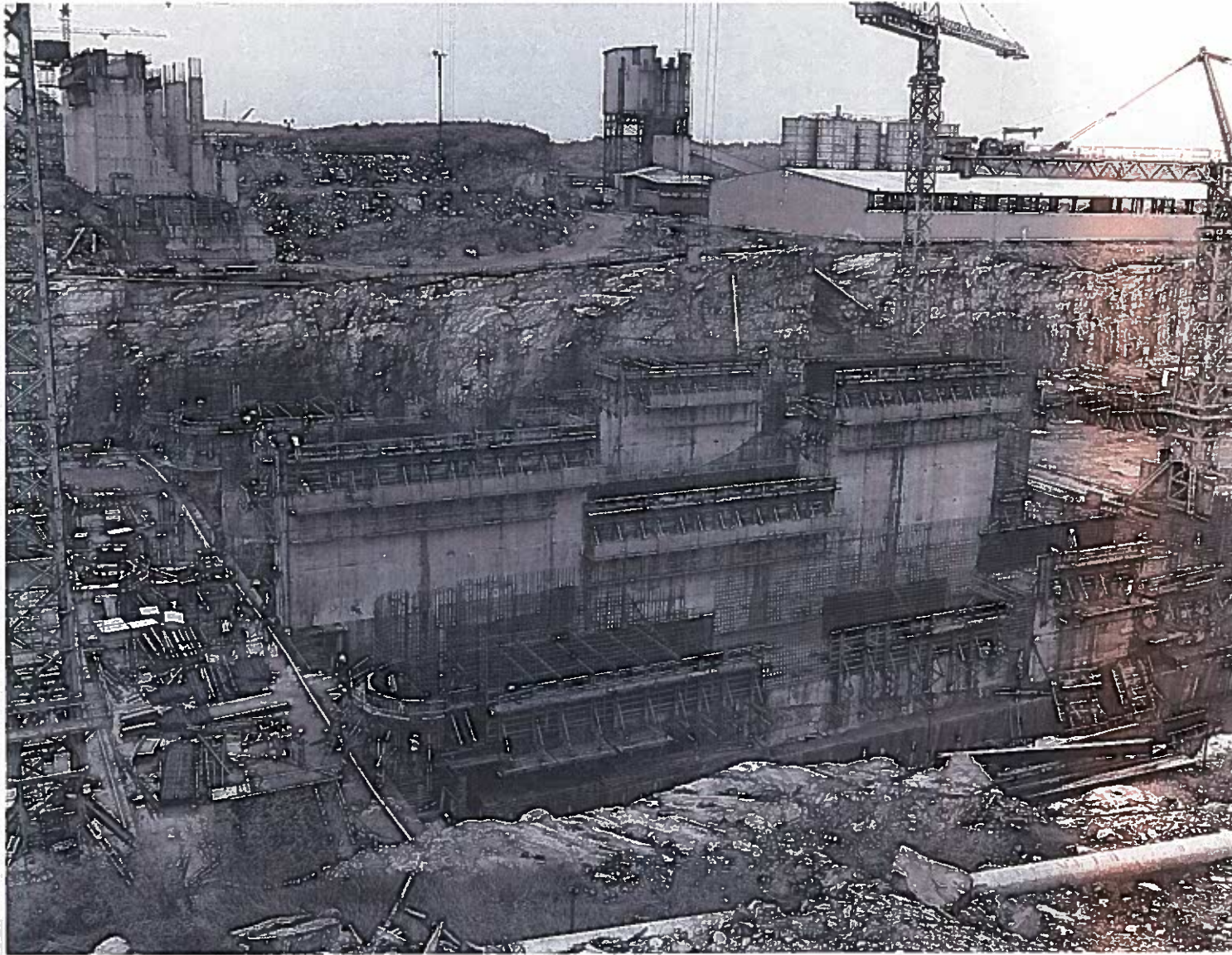
GENERAL VIEW OF SPILLWAY AND POWERHOUSE LOOKING FROM DOWNSTREAM COFFERDAM 25:11:83

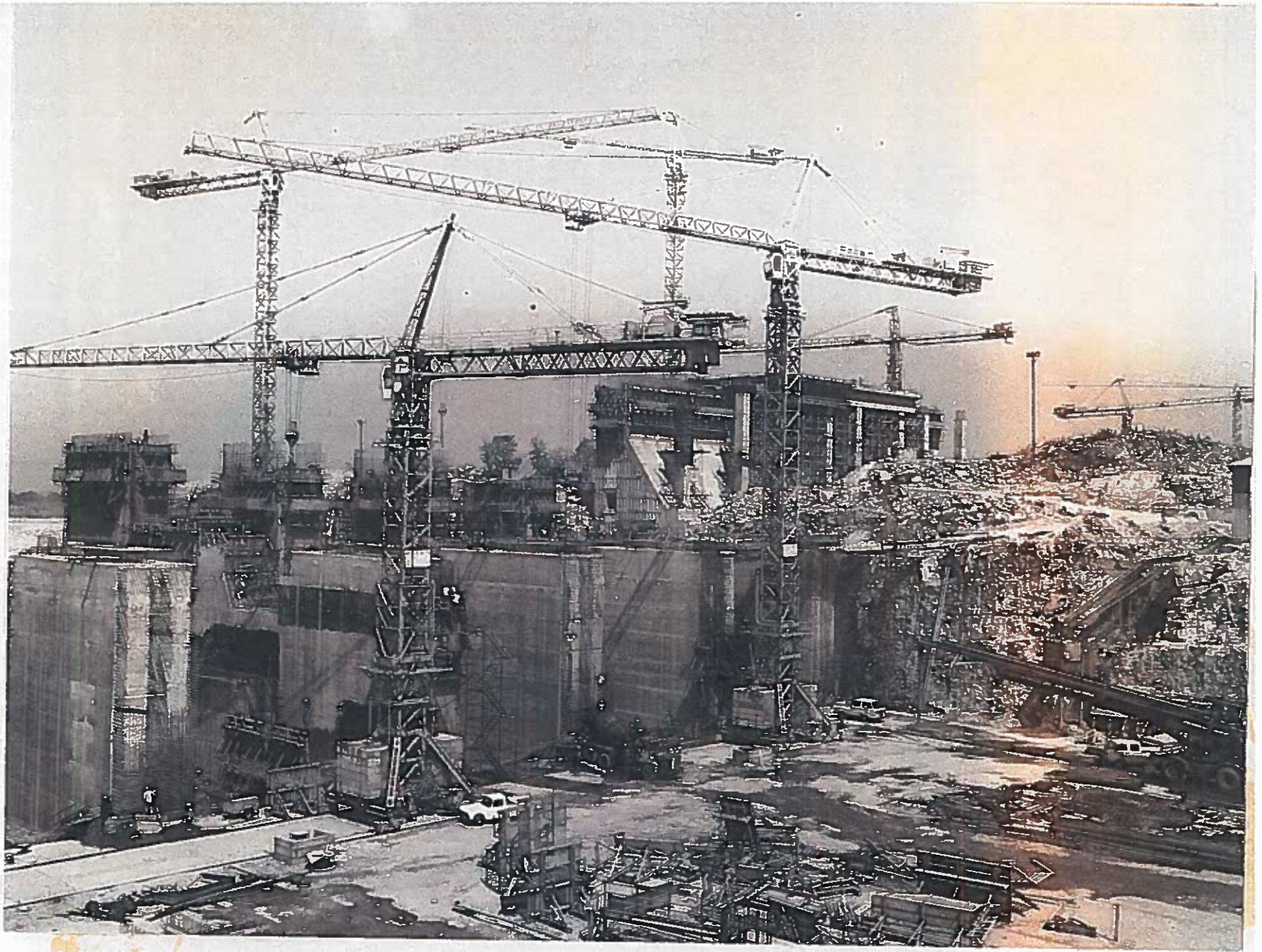
Spillway

- 6 – underflow radial gates
- ~ 90,000 cubic meters of reinforced concrete
- 14,200 m³/sec discharge capacity

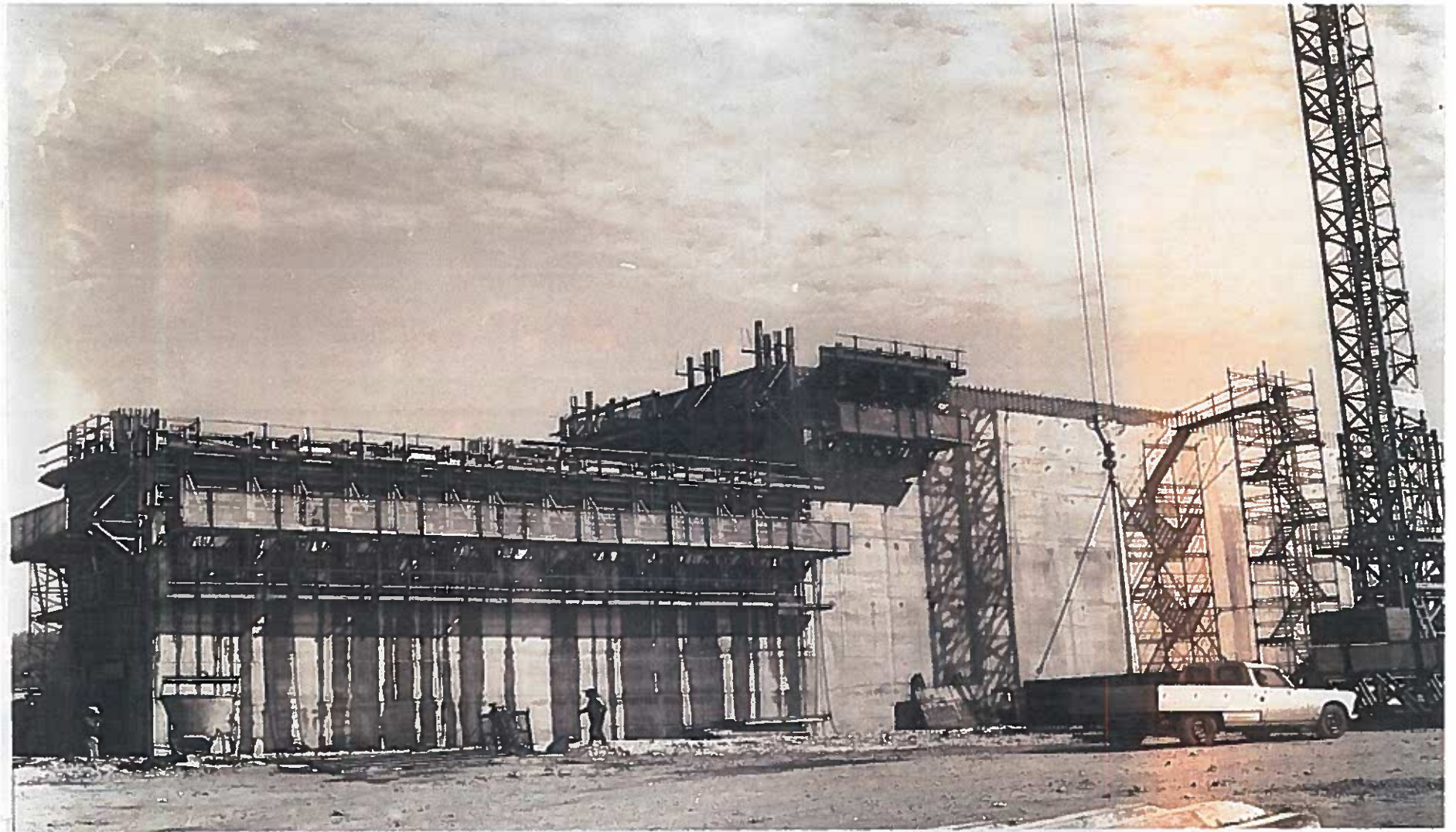




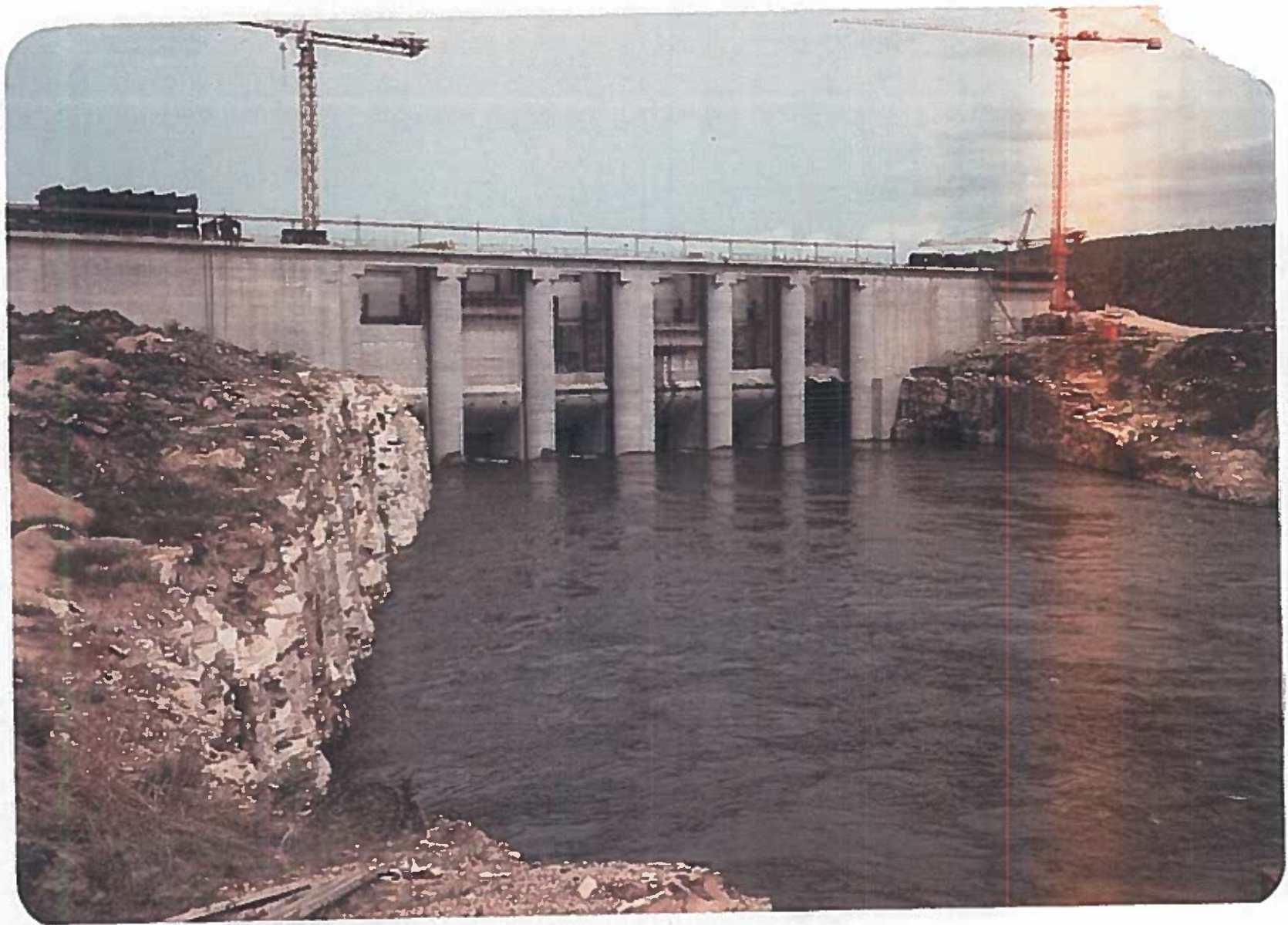


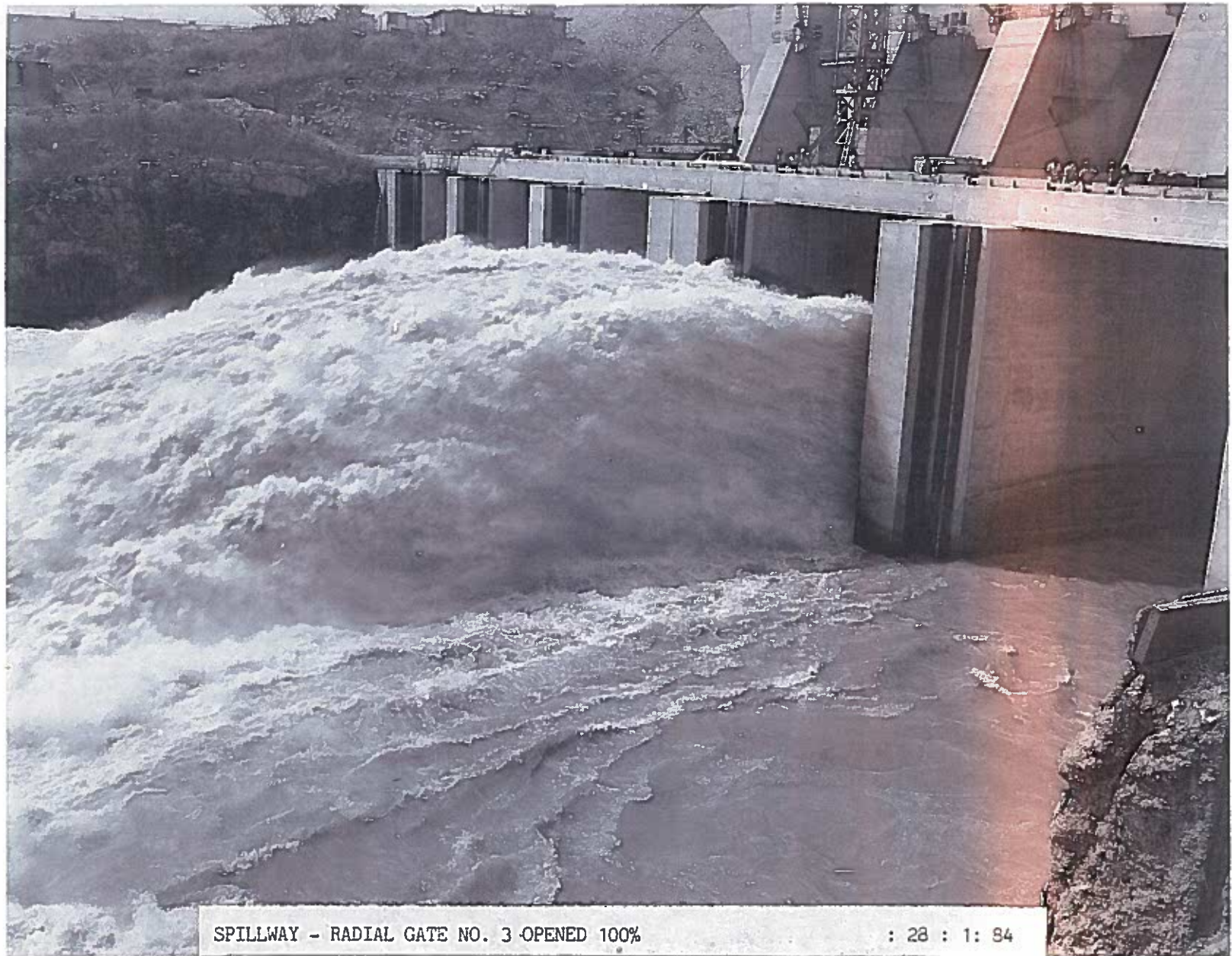






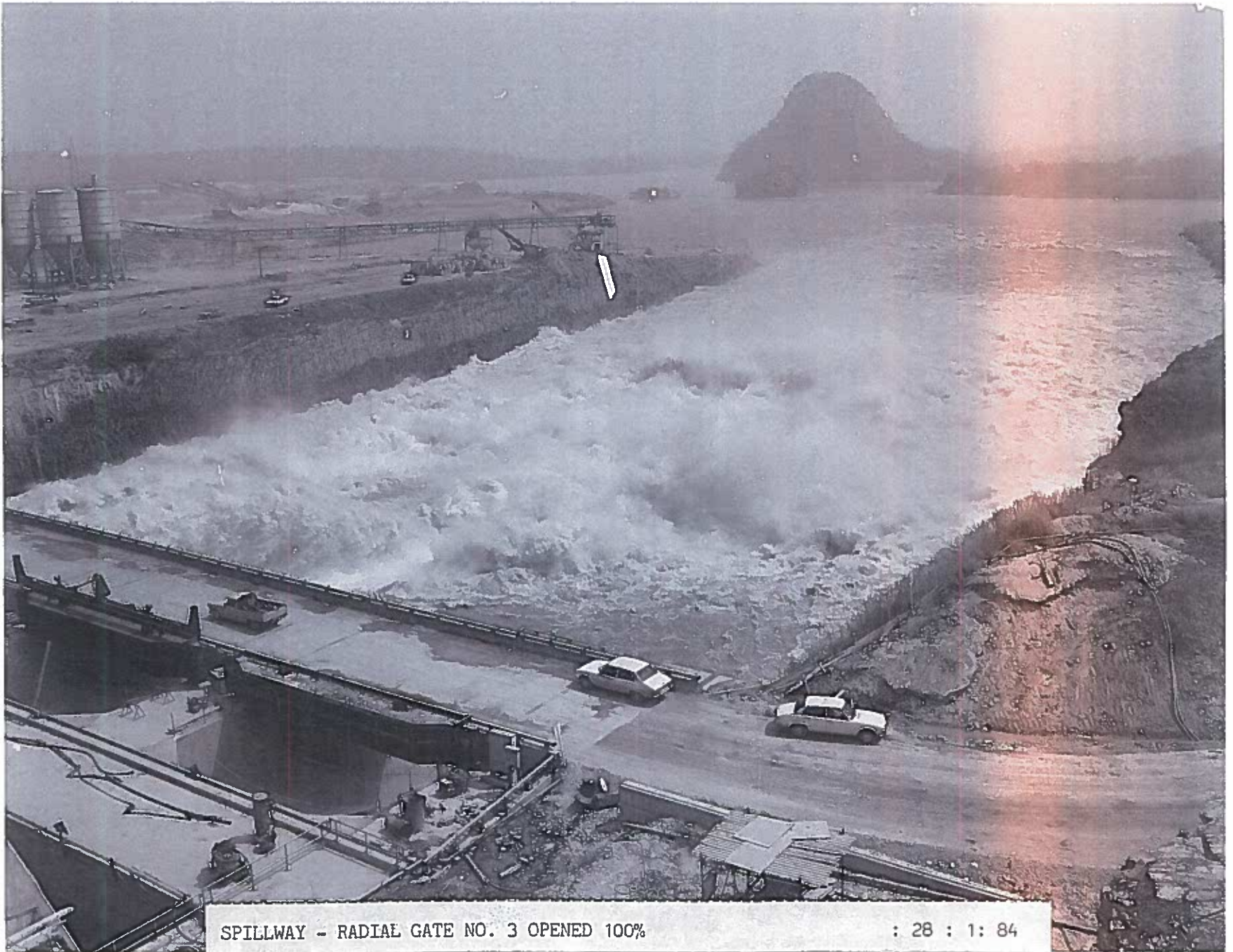






SPILLWAY - RADIAL GATE NO. 3 OPENED 100%

: 28 : 1 : 84



SPILLWAY - RADIAL GATE NO. 3 OPENED 100%

: 28 : 1 : 84

Main Dam

- Constructed on a sand bed up to 130 feet deep
- Blasting used to compact the sand
- Extensive vibro-compaction program





Navigation Lock

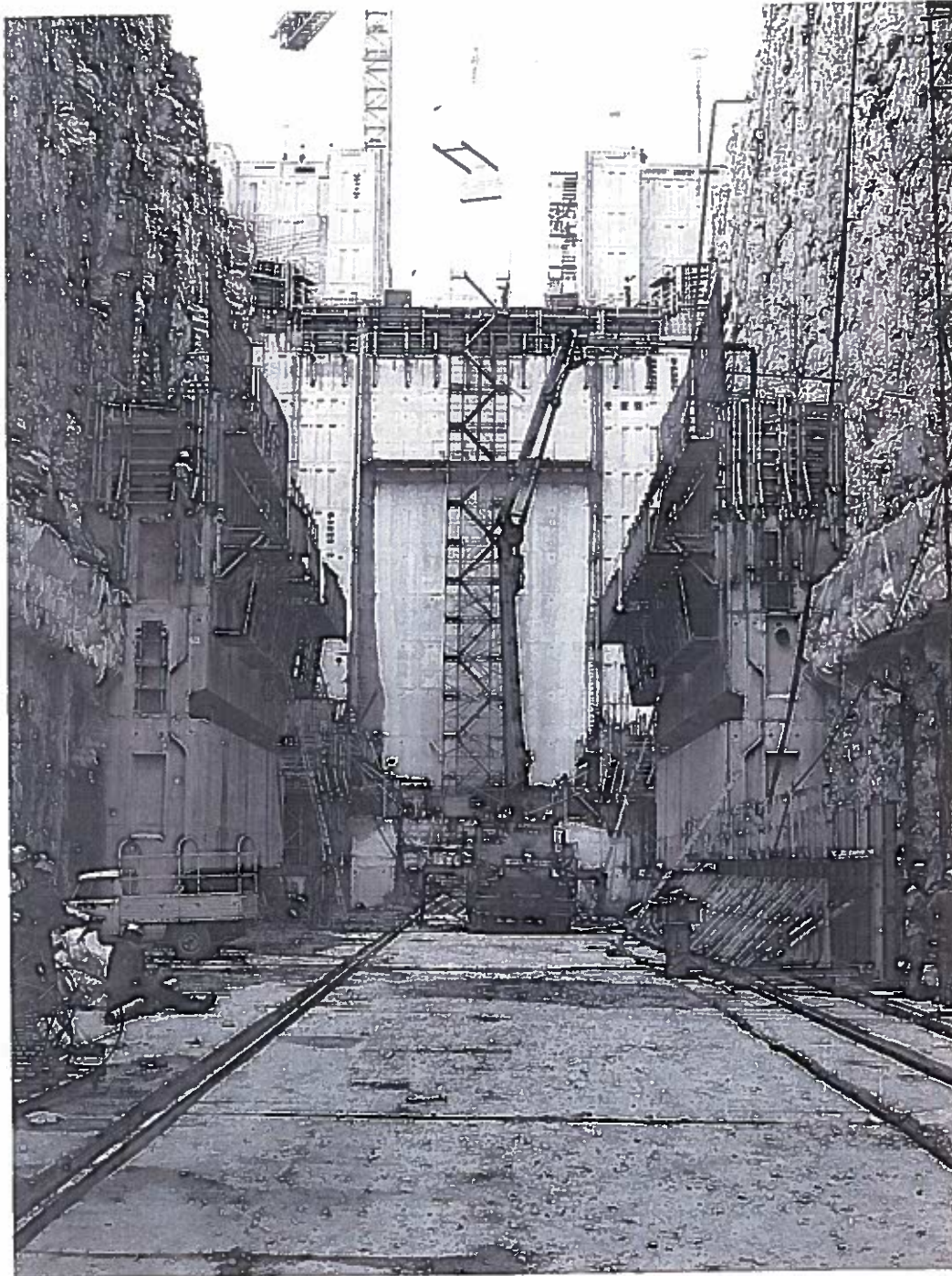
- 30 meters lift
- Sector Gate: 10.5 m high X 12.2 m wide
- ~ 124,000 cubic meters of reinforced concrete



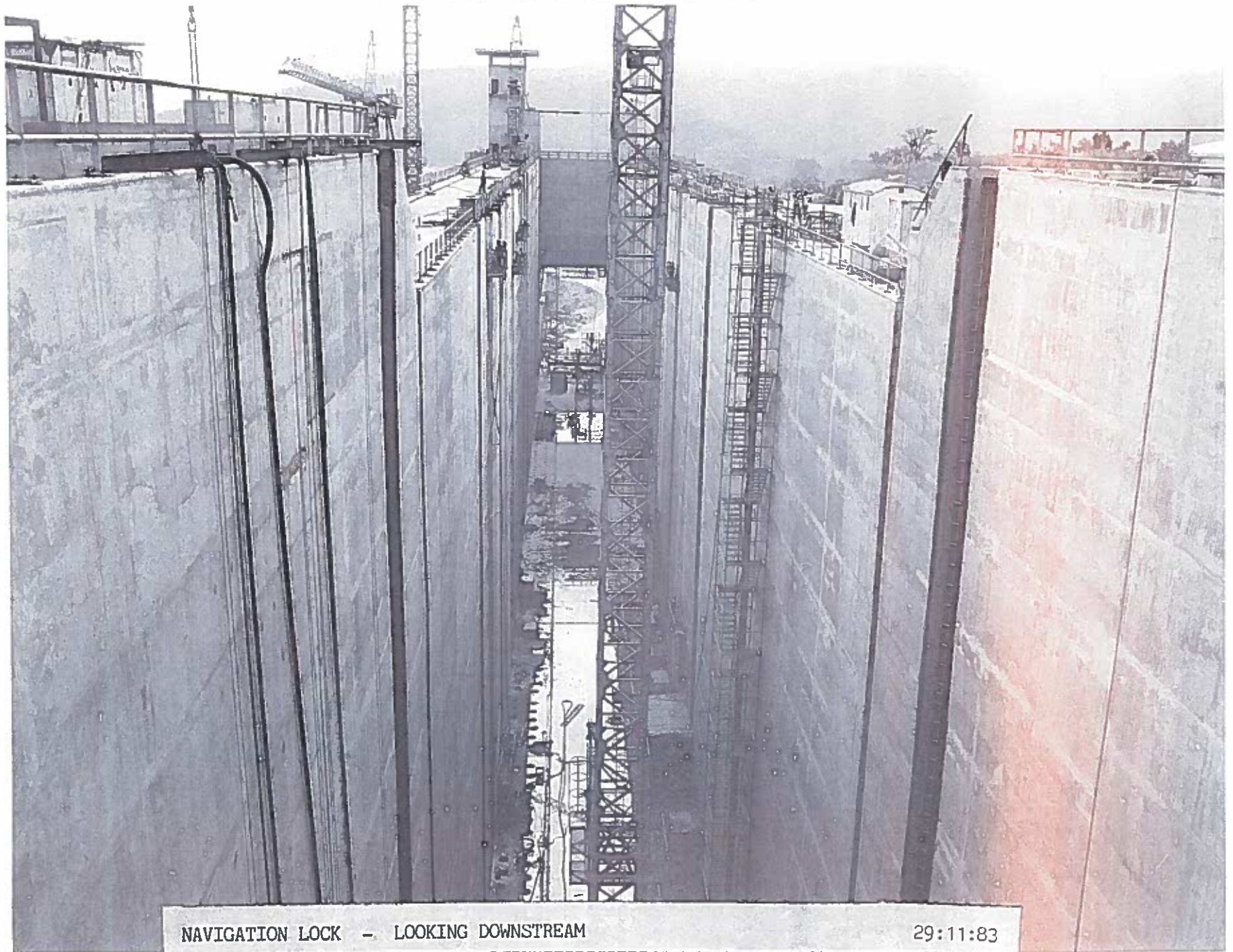


LOWER CHURCHILL F

PLATE NO. 11 NAVIGATION LOCK - GENERAL VIEW LOOKING DOWNSTREAM 24.1.83

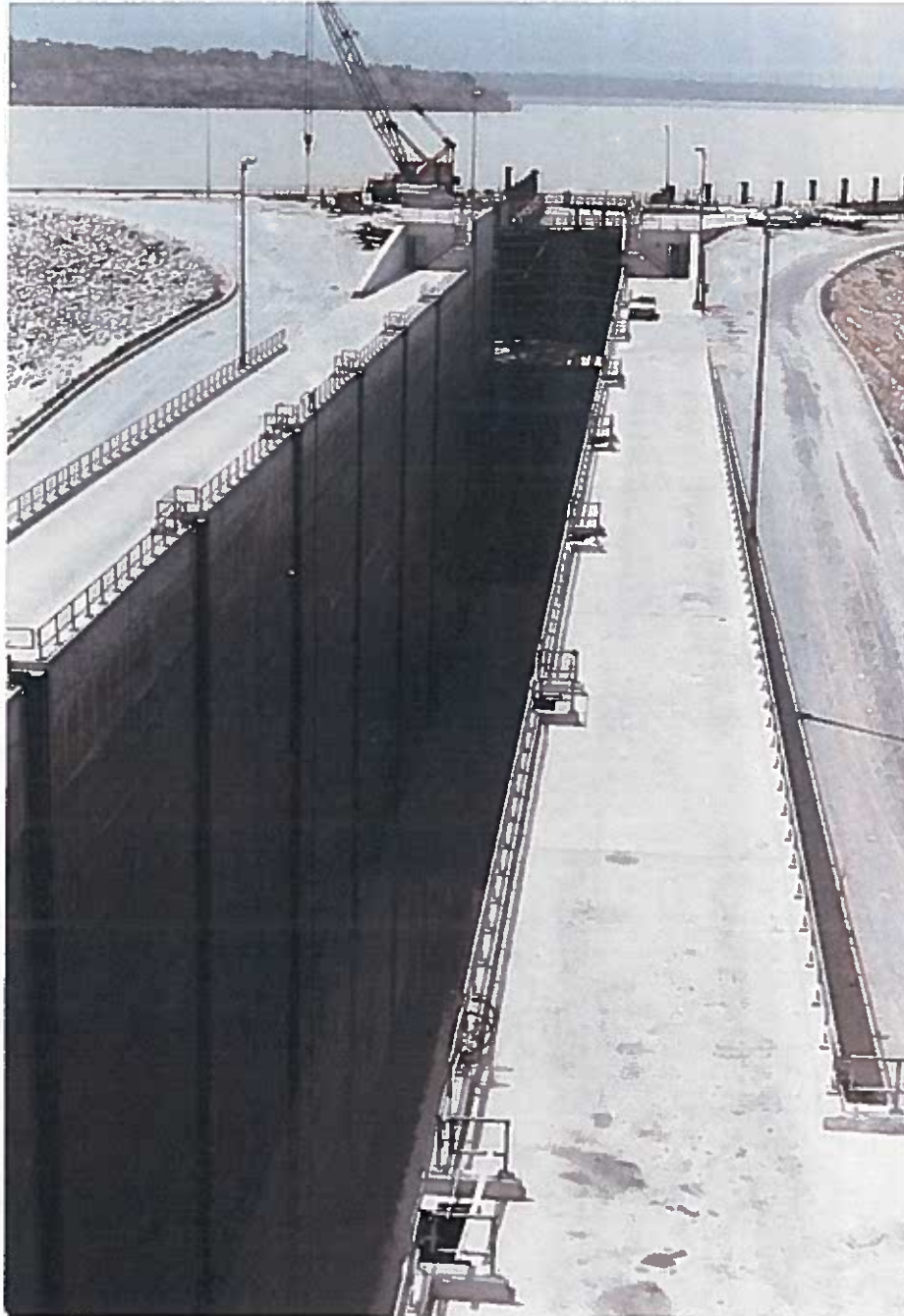


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NAVIGATION LOCK - LOOKING DOWNSTREAM

29:11:83



LOWER CHURCHILL PROJE

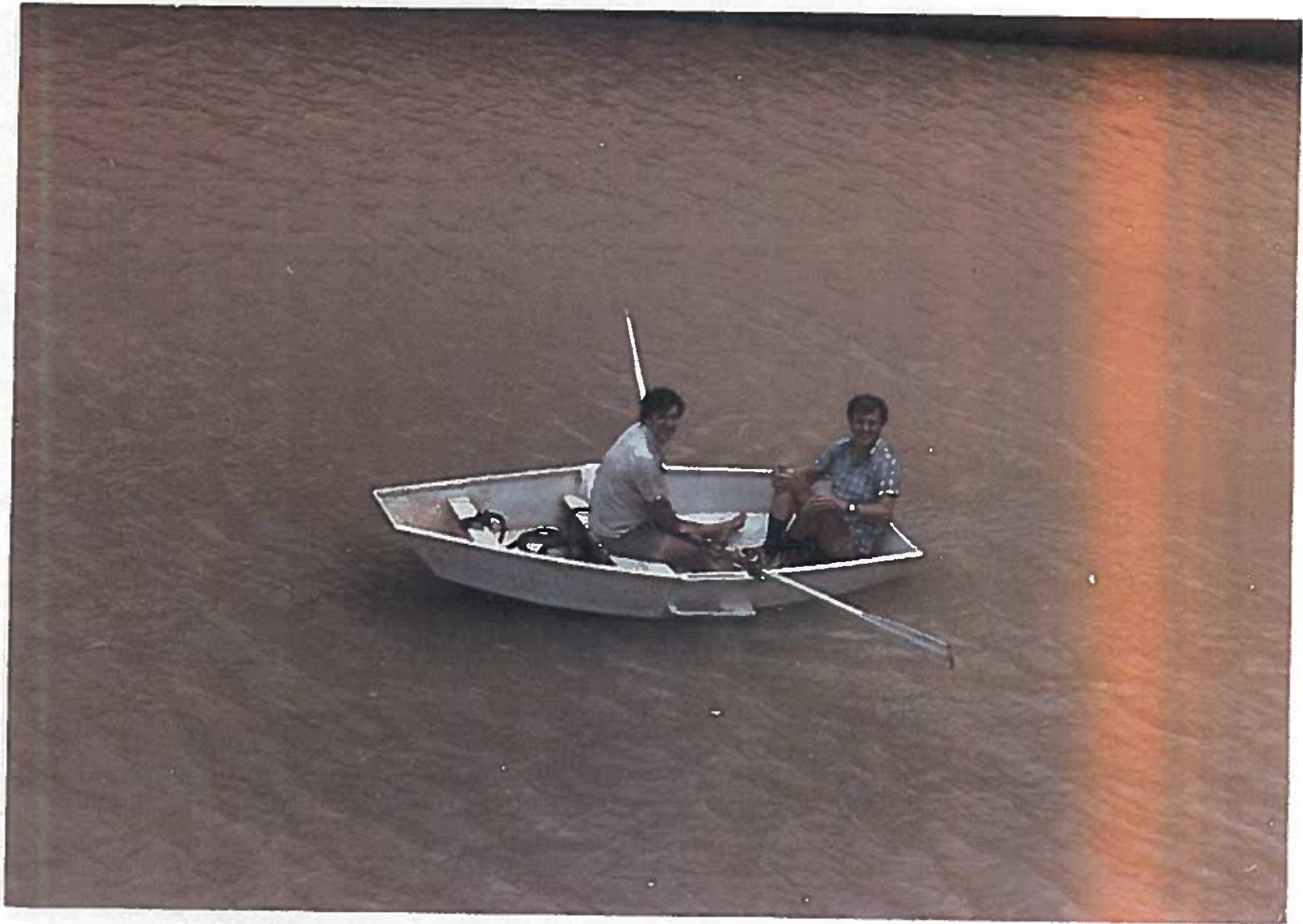
Commissioning the Lock











The Team



Local Link

