

WATER RESOURCES DEPARTMENT

From
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To
District Forest Officer,
Tiruvannamalai Division,
Chinnakadai Street,
Tiruvannamalai.

Letter No. ^M120 /F.145 /2023/JDO.2/ dated : .05.2023.

Sir,

Sub : Forest (Conservation) Act, 1980 – Proposal (No.FP/TN/ IRRIG/ 118339/2021) for Diversion of 0.90 Ha of Forest land in Ponnaiyar Reserve Forest for Construction of Fuse Plug pertaining to Thandampattu Taluk in Thiruvannamalai District for Discharge of heavy floods from Sathanur Reservoir in Thiruvannamalai District in favour of Assistant Executive Engineer, WRD., Sathanur Reservoir in Thiruvannamalai District – Site Inspection Report – Reply / Comments – Called for – Reply Submitted – Reg.

- Ref: 1. Deputy Inspector General of Forests (Central), Government of India, Ministry of Forests & Climate Change, Integrated Regional Office (South Eastern Zone), Chennai Letter No.4-TNB097/2022-CHN/118, Dated 27.01.2023.
2. District Forest Officer, Thiruvannamalai Division, Thiruvannamalai Ref.No.2373/ 2021/Dt:21.3.2022.
3. The Assistant Executive Engineer, WRD., Sathanur Dam Sub Division, Sathanur Dam Lr.No. /F.69/DRIP-II/AEES.Dam/2023/ dt. 05.2023

In the Reference 01, above cited, The Deputy Inspector General of Forests (Central), Government of India, Ministry of Forests & Climate Change has inspected the Sathanur Dam Fuse Plug site and gave the following Field Observations was reported.

The water is seen to be leaking out of the dam through the natural gradient from the proposed site for construction of Fuse Plug. At present there is no proposal from the User Agency to construct any channel to divert or connect this excess water to the main river. In case of over flow of the water above proposed Fuse Plug, the water required to be channelized through Reserve Forest only, especially in the existing natural gradient.

The area which is going to be affected due to this voluminous discharge needs to be worked out and the expected damage to the trees in RF need to be worked out. The 71 Nos of Spontaneously grown trees felling which will happen only after getting due permission from CEC appointed by Hon'ble Supreme Court, need to undertaken under the supervision of DFO, Thiruvannamalai. The major impact due to the unexpected Probable Maximum Flood is difficult to ascertain now. No mention or undertaking from User Agency could be seen in the proposal.

Based on the above Field Observation report, I herewith submit the reply as mentioned below.

Sathanur Dam was constructed during the period of 1954-1957 with Spillway and Saddle gates having Maximum Discharging capacity of 1,65,000 Cusecs.

On 9 th December 1972 the Maximum Flood Discharge of 2,57,227 cusecs was observed in Sathanur Reservoir. The Reservoir level was raised above FRL/MWL and the peak discharge over the spillway was substantially above its rated capacity during the above flood. This flood was the highest on record in the post operation period of the Project.

The consultants M/s Consulting Engg. Service (India) Private Ltd., New Delhi have reported on safety evaluation of Sathanur dam that the present Spillway, Saddle and other outlets are not sufficient to dispose of the PROBABLE MAXIMUM FLOOD value of 7,48,000 Cusecs and provision for Additional Spillway is necessary and suggested a concrete spillway with 11 gates hoist in the row saddle on the right flank of the Reservoir.

The Government of TamilNadu in G.O.Ms.No. 606 PW dated 21.4.1992 have accorded administrative sanction for Rs.41.85 Crores for implementation of DAM SAFETY ASSURANCE AND REHABILITATION PROJECT in Tamil Nadu with World Bank Assistance and Constructed the Additional Spillway.

At Present, The maximum Discharging capacity M.W.L. at +224.640M from Spillway, Saddle, Additional Spillway of Sathanur Reservoir is 2,75,608 Cusecs. But till now, Sathanur Reservoir did not received Maximum Flood Discharge of 2,57,227 cusecs which occurred in the year 1972 from past 50 years. The Available Spillway arrangements can Discharge the Maximum Flood of 2,75,608 C/s. But After construction of Additional Spillway, these firm and fully regulated arrangements will take care of about 67% of the P.M.F out flow of 7,48,000 Cusecs. The remaining 33% of the total outflow under P.M.F Conditions will be required to be disposed through a FUSE PLUG on the left flank of the reservoir.

The Maximum Outflow from 1972 to 2022 as tabulated below,

| S.No | Date of Maximum Outflow | Discharge in Cusecs |
|------|-------------------------|---------------------|
| 1. | 09.12.1972 | 2,57,277 |
| 2. | 12.01.1977 | 58,243 |
| 3. | 17.11.1991 | 54,417 |
| 4. | 15.12.1996 | 35,200 |
| 5. | 25.10.2005 | 30,397 |
| 6. | 20.11.2021 | 44,561 |

The Dam Safety Review Panel (DSRP) recommended to construct Fuse Plug based on the Probable Maximum Flood and the same has been approved by CWC for adopting rehabilitation measures. Based on the above recommendation, the estimate was prepared to construct Fuse Plug structure and it has to be fell down 71 trees only.

The proposal for Downstream Discharge Channel has not included in the original Estimate. It was roughly estimated, when flood water discharge through the Fuse Plug ,It may requires approximately 3.00 kmts length and 50 m Width in RF area and Hundreds of Spontaneously grown trees will damage while excavating new channel. But as per the site condition, the Flood water will flow through the Natural gradient and will reach the original river course naturally without any channel excavation.

Since, the occurrence of Probable Maximum Flood is an uncertain event. In this Situation, we are giving undertaking, herewith to pay and compensate all the expected damages (or loss) which may or may not be occur, undertaking is Submitted.

The work will only be started after getting due permission from CEC appointed by Hon'ble Supreme Court and undertaken under the supervision and guidance of District Forest Officer, Thiruvannamalai.

Hence I request necessary No Objection Certificate to carrying out the above work.
Encl: Index Map.

Executive Engineer, WRD,
Middle Pennaiyar Basin Division,
Tiruvannamalai – 606 603.

Copy to the Assistant Executive Engineer, WRD., Sathanur Dam Sub Division,
Sathanur Dam for information and necessary followup action.

Copy to SE, PBC, Tum for Information

Copy to CE, CR, Chennai for Information

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Middle Pennaiyar Basin Division,
Tiruvannamalai – 606 603.

அனுப்புகை எழுத்தர்,
மாவட்ட வன அலுவலகம்,
வனக் கோட்டம்,
திருவண்ணாமலை - 606 601



Periya Malai

G

Vatankulam

Mallikāpuram

Chinnapādi Malai

Chinnapādi

(PWD)

Rocky knobs

Sheet rock

Rocky knobs

P O N N I Y A R R E S E

ASSISTANT EXECUTIVE ENGINEER, WRD
SATHANUR DAM SUB-DIVISION
SATHANUR DAM

Note:

1. Main Spillway.
2. Saddle Spillway.
3. Additional Spillway.
4. Proposed Fuse Plug
of Length - 425 m

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Index Map - Sathanur Dam

Proposed Fuse Plug Site
Aprox. Channel Length - 3.00 Km
Approx. Channel Width - 50 m