

By online / E-mail.

TAMILNADU FOREST DEPARTMENT

From

To

Subrat Mohapatra, I.F.S.,
Principal Chief Conservator of Forests,
(Head of Forest Force)
Forest Head Quarters Building,
Guindy-Velachery Main Road,
Guindy, Chennai - 32.

The Additional Chief Secretary to
Government,
Environment, Climate Change and
Forests Department,
Secretariat, Chennai 9.

C. No. TS3/1022/2021, Dated: 19.07.2023.

Madam,

Sub: Forest (Conservation) Act, 1980 – Proposal for diversion of 0.90 ha of forest land in Pennaiyar RF in Tiruvannamalai Forest Division area for construction of fuse plug pertaining to Thandarampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District in favour of Assistant Executive Engineer, PWD Sathanur Dam, Tiruvannamalai District – Reply/comments on the site inspection carried out in the project area called for by the Government of India - Regarding.

- Ref: 1 Online proposal uploaded by the Assistant Executive Engineer, PWD Sathanur Dam Tiruvannamalai District Proposal No. FP/TN/IRRIG/118339/2021, dated 03.01.2021 and resubmission of proposal on 26.01.2021 and 27.02.2021
- 2 Part-II of Form-A uploaded by the District Forest Officer, Tiruvannamalai Division on 23.03.2022
- 3 Part-III of Form-A uploaded by the Conservator of Forests, Vellore Circle on 04.05.2022 and EDS reply on 20.06.2022 and 13.07.2022.
- 4 Principal Chief Conservator of Forests Ref. No. TS3/1022/2021, dated 03.08.2022
- 5 Government letter No. 14151/FR.10/2022-1, dated 30.09.2022
- 6 Government of India, MoEF&CC, IRO Chennai letter F. No. 4-TNB097/2022-CHN/118 dated 27.01.2023
- 7 Government of India, MoEF&CC, IRO Chennai letter F. No. 4-TNB097/2022-CHN/432 dated 10.03.2023

I wish to state that in the reference 6th cited above, Government of India, MoEF&CC, IRO Chennai has sent the site inspection report carried out in the project area for reply/ comments on the issues raised in the report.

In this regard, the user agency has uploaded the reply in the additional information details section of Part-I of Form-A and the District Forest Officer, Tiruvannamalai Division and Conservator of Forests, Vellore Circle have resubmitted the proposal through web portal.

2) Report sent by the Government of India, MoEF&CC, IRO Chennai in letter dated 27.01.2023 may please be perused. Detailed field observations have been deliberated in the report.

3) In the report sent by the Government of India, IRO Chennai, it has been mentioned that, during the inspection, the authorities from Sathanur Sub Division has appraised the importance of having Fuse Plug in case of having probable Maximum Flood (PMF). It is informed that the present spillway, saddle and other outlets are not sufficient to dispose of the PMF vale of 21,181 m³/Sec (7,48,000 Cusecs).

i) During the visit, it is observed that, the dam is at Full Reservoir Level (FRL). The water is seen to be leaking out of the dam through the natural gradient from the proposed site for construction of Fuse plug. And it is also seen that the water is being overflowing from the existing spillway, saddle and other outlets. 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. If it is allowed to go through the natural gradient and also through the existing walk way, it might cause huge damage to the trees present in the RF area. There is no contingency plan either proposed or submitted along with the proposal.

ii) After thorough discussion with the forest officials and the authorities from Sathanur Sub Division, it is understood that in case of overflow of the water above proposed fuse plug, the water required to be channelized through Reserve Forest only, especially in the natural gradient. The area is being user as walk way to reach put to this proposed site. If channel needs to be constructed to connect with main river, more area needs to be diverted. As such no mention about this in the submitted proposal.

iii) It is also seen that to connect such overflow water to the main stream, as such no canal can be constructed freshly, since in the event of Probable maximum flood, where in around value of 21,181 m³/Sec (7,48,000 Cusecs) of water would be expected to be discharged. It is very difficult to regulate such a huge volume of discharge.

iv) A tentative pathway worked out based on the gradient, through which the excess water is expected to be discharged is shown in google map is enclosed. The area is going to be affected due to this voluminous needs to be worked out and the expected damage to the trees in RF needs to be worked out.

v) It was discussed and understood that no submergence has happened at this FRL. However, what would happen at PMF needs to be studied.

vi) There is no residential complex present nearby especially in and around the site proposed for making Fuse Plug. However, the major impact due to the unexpected probable Maximum flood is difficult to ascertain now.

In this regard, opinion from the State Government on this issue of excess water causing damage to the existing tree in the RF area has been called for.

4) On the Report of the site inspection and observations made by the Government of India, the user agency has submitted following report.

I) Sathanur Dam was constructed during the period of 1954-1957 with spillway and saddle gates having maximum discharge capacity of 1,65,000 cusecs.

a) On 9th 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. The flood was the highest on record in the post operation period of the project.

b) The maximum outflow from 1972 to 2022 furnished as follows.

Sl. 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

c) 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

d) The Government of Tamil Nadu have accorded administrative sanction for implementation of Dam Safety Assurance and Rehabilitation Project in Tamil Nadu and constructed the additional spillway.

e) At, present, the Maximum Discharging capacity MWL at +224.640 m 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.

f) The available spillway arrangements can discharge the Maximum flood of 2,75,608 Cusecs. But after construction of additional Spillway, these firm and fully regulated arrangements will take care of about 67% of the PMF outflow of 7,48,000 Cusecs. The remaining 33% of the total outflow under PMF conditions will be required to be disposed through a Fuse Plug on the left flank of the Reservoir.

g) The Dam Safety Review Panel (DSRP) recommended to construct Fuse Plug based on the Probable Maximum Flood (PMF) 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.

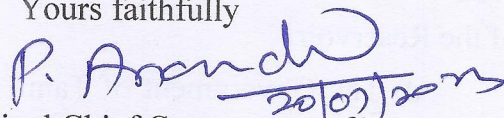
h) The proposal for Downstream Discharge Channel has not been included in the original estimate. It was roughly estimated, when flood water discharge through the Fuse Plug, it may requires approximately 3.00 kms length and 50.00 m width in RF area and Hundreds of spontaneously grown trees will damage 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.

i) Since, the occurrence of Probable Maximum Flood is an uncertain event, in this situation, the user agency has giving undertaking to pay and compensate all the expected damages or loss which may or may not occur.

5) As per the report of the user agency, when the Probable Maximum Flood discharged through the Fuse Plug, about 33% of maximum water may be discharged through Fuse Plug, it may requires approximately 3.00 km length and 50.00m width in RF area, 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.

I request that the report may be forwarded to the Government of India for consideration of the project proposal.

Yours faithfully


20/07/2023

For Principal Chief Conservator of Forests
(Head of Forest Force)

20/07/2023