

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE BENCH AT CHENNAI**

**M.A.No. 2 OF 2021
IN**

**ORIGINAL APPLICATION No.71 of 2020 (SZ)
(Application under Sections 26 and 28 of the National Green
Tribunal Act, 2010)**

IN THE MATTER OF:

GavinollaSrinivas

H.No.1-99, Bapanpally village
DamarigiddaMandal
Narayanpet District
Telangana- 509407
Mail: gavinollaseenu@gmail.com
Mobile: 8919896723

-----Applicant

VERSUS

1. Union of India,

Rep. by its Secretary,
Union Ministry of Environment, Forest & CC,
Indira ParyavaranBhavan,
Jorbagh, New Delhi – 110003.
Mail : secy-moef@nic.in AND 4 Others.

..... Respondents

.....
INDEX

Sl.No.	Date	Description	Page No.
1.	22.07.2021	Counter filed by 4 th Respondent M.A.No.2 of 2021 in O.A. No.71 of 2020	1-15
2.	27.08.2020	Annexure -1 Work Order Letter to Agency	16
3.	12.11.2020	Annexure -2 Committee report on location and alignment	17-20
4.	04.12.2020	Annexure -3 Geologist Report	21-25
5.	27.06.2021	Annexure -4 Forest letters and Map	26-28
6.		Annexure -5 RLS_ Layout	29
7.	30.06.2021	Annexure -6 CWC _DPR Acknowledgement	30-31
8.	01.07.2021	Annexure -7 KRMB Acknowledgement	32

9.	09.06.2021	Annexure -8 EC Application to MoEF dt.09.06.2021	33
10.	23.01.2021	Annexure -9 Expert committee report on foundation exposure	34-35

It is certified that all the documents contained in the above annexure are true copies.

Date: 22.07.2021

COUNTER AFFIDAVIT FILED BY THE
4TH RESPONDENT

M/S MADHURI DONTI REDDY
ADVOCATE
STANDING COUNCIL FOR GOVERNMENT OF
ANDHRA PRADESH
A.P. POLLUTION CONTROL BOARD
T.T.D. SUPREME COURT OF INDIA
#S2, Royal Castle, 26, Gill Nagar Extension, Choolaimedu, Chennai
– 600 094. Mobile: 98407 98460 / 6383121322
COUNSEL FOR 4TH RESPONDENT

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Mobile: 8919896723

-----Applicant

VERSUS

1. **Union of India,**
Rep. by its Secretary,
Union Ministry of Environment, Forest & CC,
Indira ParyavaranBhavan,
Jorbagh, New Delhi – 110003.
Mail : secy-moef@nic.in
Phone – 011-24695262,24695265.
2. **Union of India,**
Rep. by its Secretary,
Union Ministry of Jal Shakti,
SramasaktiBhavan,
New Delhi – 110001.
Mail : secy-mowr@nic.in
Phone – 040-2345620, 24695265
3. **State of Telangana,**
Rep. by its Chief Secretary,
Secretariat, Hyderabad- 500022
Mail : cs@telangana.gov.in
Phone No.04023452620

CHIEF SECRETARY
Government Of Andhra Pradesh
Velagapudi, Amaravati,
Guntur Dist. - 522 238.

4. State of Andhra Pradesh

Rep. by its Chief Secretary,
Secretariat, Velagapudi,
Guntur District,
State of Andhra Pradesh,
Mail : cs@ap.gov.in
Phone No.0863-2444461

5. Krishna River Management Board

Rep. by its Member Secretary,
Government of India, Ministry of Water Resources,
5th Floor, Jalasoudha, ErrumManzil,
Hyderabad – 500082
Mail. Membersecretary-krmb@gov.in
Phone No : 040-23301858

-----Respondents

COUNTER AFFIDAVIT ON BEHALF OF THE 4th RESPONDENT

I, Aditya Nath Das, S/o Sri Gowrikantha Das, aged about 60 years, Occ: Chief Secretary, Government of Andhra Pradesh, R/o Vijayawada, do hereby solemnly affirm and sincerely state on oath as follows:

1. I am the Chief Secretary to the Government of Andhra Pradesh and I am well acquainted with the facts of the case. I am authorised to depose on behalf of the 4th Respondent. It is humbly submitted that the present application filed by the Applicant under Sections 26 and 28 of National Green Tribunal Act, 2010, is not maintainable in law or on fact. The State of Andhra Pradesh did not violate any order passed by this Hon'ble Tribunal and it has no intention to act into the disobedience of the orders passed by this


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Government Of Andhra Pradesh

Hon'ble Tribunal. The State of Andhra Pradesh did not act in deviation of the orders passed by this Hon'ble Tribunal. I deny all the allegations made in the above Application except those that are specifically admitted as hereunder.

2. At the outset, I humbly submit that the present application filed by the Applicant is liable to be dismissed as the same was filed without verifying the true and correct facts and the nature of work going on the ground.

3. It is submitted that before adverting to the various allegations made in this Application, I wish to place true and correct facts as regards the nature of work undertaken by the State of Andhra Pradesh, which are as follows.

4. It is submitted that the State of Andhra Pradesh planned to construct Rayalaseema Lift Irrigation Scheme (RLS) initially at Mucchumarri to draw water from the foreshore of Srisailam Reservoir to realise its allocated water awarded by KWDT-I, in view of dwindling flows into Srisailam Reservoir and change of inflow pattern into Srisailam Reservoir.

5. It is submitted that the State of Andhra Pradesh is unable to realise its allocated share through Pothireddypadu Head Regulator as it can draw water by gravity only when the water level in


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Government Of Andhra Pradesh
Velagapudi, Amaravati.

Srisailam Reservoir is +854 feet and above. The proposed RLS is planned to draw water from foreshore of Srisailam Reservoir from +800 feet to supplement water needed for 4 systems namely (1) SRBC (19 TMC) (2) Drinking water supply to Chennai City (15 TMC) through Telugu Ganga Project (3) Telugu Ganga Project (29 TMC) and (4) Galeru Nagari Srujala Sravanthi (38 TMC), totalling to 101 TMC. The proposed RLS is to supplement 3 TMC per day to Srisailam Right Main Canal (SRMC) downstream of Pothireddypadu Head Regulator to supplement water to above mentioned project. Thus, in order to realise the above mentioned quantity of 101 TMC, the proposed RLS is taken up by the State of Andhra Pradesh, which draws water when the water level in Srisailam Reservoir is between +800 feet and to +854 feet.

6. It is submitted that the water will be drawn from Srisailam Reservoir through Pothireddypadu Head Regulator, when the water level in Srisailam Reservoir level is between +854 feet to +885 feet and these drawls are by gravity. However, when the water level in Srisailam Reservoir has gone below +854 feet, the water would be drawn through RLS up to a level of +800 feet.

7. It is submitted that one Sri Gavinolla Srinivas challenged the construction of RLS by the State of Andhra Pradesh before this Hon'ble Tribunal disposed of the said O.A.No.71 of 2021 with the following directions:


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 Velagapudi, Amaravati,
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- i. *“Since, the Ministry of Jal Shakti has already directed the Andhra Pradesh Government not to proceed with the project without submitting the Detailed Project Report (DPR) before the Krishna River Management Board (KRMB) and getting their appraisal done, there is no necessity for this Tribunal to go into the question whether prior approval from the Krishna Rive Management Board (KRMB) is required or not as the matter has to be considered by that Board after evaluating the Detailed Project Report (DPR) to be produced before them as directed by the Ministry of Jal Shakti as that is covered by the provisions of the Andhra Pradesh Reorganization Act, 2014.*
- ii. *“Since, the Tribunal has prima facie found that there is a component of irrigation envisaged in the project and which requires prior Environmental Clearance (EC), and without getting prior Environmental Clearance (EC), the 4th respondent is not entitled to proceed with the project, the 4th respondent is restrained from proceeding of the work without getting Environmental Clearance (EC).*
- iii. *“The parties are directed to bear their respective costs in the application.”*

8. It is submitted that the pending the main O.A., this Hon'ble Tribunal by order dated 13.07.2020 permitted the State of Andhra Pradesh to proceed with the tenders and also to conduct necessary survey in respect of RLS. Subsequently the 4rd responded herein call for the tenders and the lowest bidder entered into an agreement with the State of Andhra Pradesh in respect of the RLS.


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9. It is submitted that the light of various observations made by this Hon'ble Tribunal while passing the order dated 29.10.2020, the bidder requested to conduct a detailed survey and investigation and to suggest alternative site, if any, other than the original site i.e. Mutchumarri to avoid land acquisition. After a preliminary investigation, the bidder suggested that RLS may be constructed on the left side of the Pothireddypadu Head Regulator, where Government land is available.

10. It is submitted that the alternative proposal made by the bidder was considered by the Technical Committee comprising of two Chief Engineers from Central Designs Organization, Vijayawada and Chief Engineer, Kurnool. The Expert Committee approved the alternative site i.e. on the left side of the Pothireddypadu Head Regulator in the light of some of the observations made by this Hon'ble Tribunal and in order to avoid Land Acquisition, Thereafter, the State of Andhra Pradesh requested the Geological Survey of India to inspect the alternative site at Pothireddypadu Head Regulator as regards its feasibility. The Geological Survey of India vide its Lr.No.43/EGD/GSI/SR/2020, dated 04.12.2020, issued feasibility report, stating that the alternative location is suitable for construction of RLS. The Conservator of Forest of Nagarjunasagar-Srisailam Tiger Reserve is also requested to furnish his views on the alternative site. The Conservator of Forest of Nagarjunasagar-Srisailam Tiger Reserve vide Proceedings Lr.Rc.No.1055/2021/TO,


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dated 27.06.2021 stated that there are no Eco Sensitive Zones (ESZ) within 10 Km of the proposed project site and the existing Nagarjunasagar- Srisailam Tiger reserve is situated at a distance of 11.54 Kms. For better appreciation of this Hon'ble Tribunal, the following comparative table would furnish necessary details of the original proposal projected before this Hon'ble Tribunal before passing the order dated 29.10.2020 and the modified present proposal.

components	Initialproposal of Rayalaseema Lift Scheme	Modified present proposal
<p>1. Pump house: Pump house is proposed to accommodate 12 Nos. of pumps. With a capacity of 81.93 cumecs.</p> <p>2. Approach channel is proposed foreshore area to reach 800 ft level upto proposed pump house including forebay is proposed from the end of the approach channel upto the pump house.</p> <p>3. Pipeline: The M.S. pipeline of 500 mm diameter is</p>	<p>i. Pump House located to the East of Muthumarri Village.</p> <p>ii. Approach channel running along the ridge line in submergence area for a length of 4.5 Km.</p> <p>iii. Pipeline: The M.S. pipeline of 500 mm diameter is proposed form pump house to the delivery cistern.</p> <p>iv. Link Canal Running for a length of 22.9 Kms parallel to the FRL for most part, passing adjacent to/ in-between resettlement villages/ colonies of Sankirenipalle/N/MGhanapuram and joining SRMC @ 4th Km.</p> <p>v. Nearly 500 acres of private lands are to be acquired for this proposal.</p>	<p>I. The Pump House on the 'higher ground' adjacent to existing PRHR on <i>Northern side</i>.</p> <p>II. Approach channel running along the valley in Bhavanasi river for a length of 8.89 Km.</p> <p>III. <i>Delivery carried through pipelines into the DC.</i></p> <p>IV. Link canal for a length of 0.5 Km</p>

<p>proposed form pump house to the delivery cistern.</p> <p>4. <u>Linc Canal:</u> Excavation of link canal from the delivery cistern to SRMC downstream of Pothireddypadu Head Regulator 0.5 kms.</p>		<p><i>constructed on SRMC D/S of HR.</i></p> <p>V. This proposal does not require any Land Acquisition.</p>
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11. It is submitted that the above table makes it clear that in the modified proposal, the pump house is situated north side of the existing Pothireddypadu Head Regulator with an approach channel of 8.892 Kms located in the foreshore of Srisailam Reservoir, connecting to a forebay of 237mts, with a link canal connecting to the existing SRMC with 0.5 Kms or 500 mts. Thus, the land required for the modified proposal is only 25.02 hectares. The said extent of the land is a Government land and is available at Pothireddypadu Head Regulator, which was acquired for the construction of the Pothireddypadu Head Regulator and excavation of SRMC to dump the spoil (Muck) from the construction of Pothireddypadu Head Regulator and excavation of SRMC. The dumped spoil / muck in the said Government land admeasuring of an extent of 25.20 hectares will be carted to the existing gaps of the spoil banks all along SRMC to ensure the availability of Government


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 Velagapudi, Amaravati,
 G. P. O. No. 1, 520 002

land for the proposed RLS. Hence, no fresh land acquisition is required.

12. It is submitted that the modified scheme does not involve creation of any new irrigation as there is no increase in the capacity of the existing canal either by providing additional canals or diversion canals or by widening or enhancing the dimension of the existing canals. It is also brought to the kind notice of this Hon'ble Tribunal that there are no Eco Sensitive Zones (ESZ) within 10 Km from the proposed site and the nearest protected area is Nagarjunasagar Srisailem Tiger reserve which is about 11.544 Km.

13. It is submitted that on 30.06.2021 in respect of the modified scheme, the State of Andhra Pradesh has submitted its DPR to Central Water Commission. On 01.07.2021 DPR was also submitted to KRMB with all the necessary details.

14. It is submitted that on 09.06.2021, the State of Andhra Pradesh has applied for Environmental Clearance to the modified proposal. The Expert Appraisal Committee (EAC) of Ministry of MoEF& CC considered the modified proposal of the State of Andhra Pradesh in its meetings on 17.06.2021 & 07.07.2021 and sought certain clarifications from the State of Andhra Pradesh and the same is pending.



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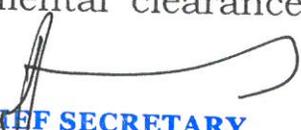
15. It is submitted that it was brought to the notice of the Expert Appraisal Committee (EAC) that

(i) Water will be drawn commensurate to the allocation of the State of Andhra Pradesh out of allocation made by KWDT-1 either by gravity or by pumping depending upon the water level in the Reservoir.

(ii) It is made clear to the EAC that both mechanisms will not and cannot be operated simultaneously and that the present scheme is envisaged only to bridge the gap in the realization of an allocated water for all beneficial uses including drinking and irrigation purposes.

(iii) It is further brought to the notice of the EAC that the schemes through which water will be supplied were already granted environmental clearance vide proceedings Lr.No.J-0016/70/83-1A, dated 19.08.1998 for Telugu Ganga Project, Lr.No.J-12011/7/95/1A, dated 07.07.1995 for SRBC and Lr.No.J-12001/18/2006-1/A1, dated 21.06.2006 for GaleruNagariSujalaSravanthi (GNSS).

iv) It is further brought to the notice of the EAC that under the proposed scheme, water would be utilized in the abovementioned existing schemes, which have environmental clearance without creating any new irrigation, no fresh environmental clearance is


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 Government Of Andhra Pradesh
 Velagapudi, Amaravati,
 Guntur Dist. - 522 238.

required. However, the State of Andhra Pradesh in obedience with the order dated 29.10.2020 passed by this Hon'ble Tribunal, applied for environmental clearance for the modified proposal.

16. It is submitted that in view of the report of the Geological Survey of India dated 04.12.2020, one of the members of the Expert Committee appointed by this Hon'ble Tribunal pending main O.A. No. 71 of 2020, raised a concern about subsidence of soil due to presence of limestone in the soil strata. In view of the subsidence factor, it has become inevitable to expose the approach channel to water. The said approach channel is duly located in the foreshore of Srisaïlam Reservoir and gets submerged as the reservoir gets filled up. Subjecting the strata of the approach channel to get filled up with water will give a realistic picture of existence of subsidence and soil failure. Thus, it became inevitable to partially expose the strata before it gets submerged and to observe the condition of the strata next year for subsidence occurrence. Thus, the approach channel in this monsoon season is partially excavated and due to onset of the monsoon, left exposed for study of subsidence for one drowned season.

17. It is submitted that no concrete work is going on at the new site North of Pothireddypadu Head Regulator in obedience with the order passed by this Hon'ble Tribunal. The survey and investigation work so far done at the new site is only to expose the foundation in


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Government Of Andhra Pradesh
Velagapudi, Amaravati,
Guntur Dist. 522 220

view of the variation in the soil strata and to rule-out the subsidence factor as regards its suitability.

18. It is submitted that the light of the above, the State of the Andhra Pradesh has not violated any order passed by this Hon'ble Tribunal dated 29.10.2020 and has no intention to cause any disobedience of the order passed by this Hon'ble Tribunal and the various allegations made by the Applicant are not true when juxtaposed against the actual survey and investigation work done at the alternative site. In fact, the State of Andhra Pradesh stopped the work on 07.07.2021. In the light of the above the application is liable to be dismissed in limini.

Without prejudice to the above contentions, I beg to submit the para-wise replies.

19. It is submitted that the allegations in paras 1 and 2 of the present application need not be traversed to as they set out to the facts.

20. It is submitted that the allegations in para 3 of the application that " *though there are clear directions from this Hon'ble Tribunal, the officials of Respondent No.4 blatantly violating the directions issued in the Judgement dated 29.10.2020 and going ahead with the construction of Rayalaseema Lift Irrigation Scheme at Sangameswaram in Kurnool District of Andhra Pradesh. That the*


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 Government Of Andhra Pradesh
 Velagapudi, Amaravati,
 Guntur Dist. - 522 238.

officials of Irrigation department have permitted contractors to take up the construction works at Sangameswaram site. The works are going on by using heavy equipment and hundreds of trucks dumping mud in the reservoir to create platform for the erection of pumps” are not true and the applicant is put to strict proof of the same. As already submitted, the 4th Respondent State did not violate any order passed by this Hon’ble Tribunal. The allegations are made without any responsibility of verifying the true and correct facts and are made purposefully to prejudice the mind of this Hon’ble Tribunal. The present application is a motivated application. As already submitted, the nature of the work done by the 4th Respondent State of Andhra Pradesh is only survey and investigation and exposing the soil for a specific reason. The 4th Respondent has no intention to violate the order passed by this Hon’ble Court. The allegation that the work is going on at Sangameswaram site itself shows the applicant has not verified the either the nature of the work and the place at which the work was done. None of the photographs can be relied upon as the applicant claims that the work is going on at Sangameswaram site whereas the actual survey and investigation work was done left side of Pothireddypadu Head Regulator.

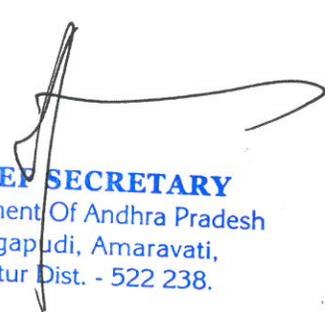
21. It is submitted that the allegations in para 4 of the application that *“the authorities of the Andhra Pradesh have been executing the works for the past few days and proposed to complete the project*


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 Government Of Andhra Pradesh
 Velagapudi, Amaravati,
 Guntur Dist. 522 000

within one year/ end of 2021. That the direction of prior Environment Clearance (EC) was completely ignored by the officials of Irrigation Department of Andhra Pradesh and trying to complete the project without clearance from Union Environment Ministry and Union JalShakthi Ministry which is completely untenable and disobedience of law and judgement of this Hon'ble Tribunal are not true and the applicant is put to strict proof of the same. No concrete work was done by the 4th Respondent State of Andhra Pradesh except exposing the soil due to subsidence factor. The State of Andhra Pradesh has already applied for Environmental Clearance on 09.06.2021 and the said issue is pending. Hence, the allegations in this paragraph are misconceive and misleading.

22. It is submitted that In answer to the allegations in para 5, it is humbly submitted that the DPR was submitted to CWC on 30.06.2021 and also to KRMB on 01.07.2021. Thus, the 4th Respondent State of Andhra Pradesh is acting in accordance with the provisions of Act, 2014 and also Environmental Law. The application is liable to be dismissed with heavy costs for deposing to a false affidavit.

23. It is submitted that this respondent craves leave of this Hon'ble Tribunal to raise additional counter in the course of proceedings, if required.


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 Government Of Andhra Pradesh
 Velagapudi, Amaravati,
 Guntur Dist. - 522 238.

Under the said circumstances, it is humbly prayed that this Hon'ble Tribunal may be pleased to dismiss the above M.A.No.2 of 2021 in O.A.No. 71 of 2020 with heavy cost and pass such further order or orders as this Hon'ble Tribunal may deem just and proper in the facts and circumstances of the case.

Solemnly affirmed at Vijayawada

On this the 22 day of July 2021

And signed in my presence.

CHIEF SECRETARY
 Before me
 Government Of Andhra Pradesh
 Velagapudi, Amaravati,
 Guntur Dist. - 522 238.

P. Ajay Babu

Advocate

PENUMAKA AJAY BABU
 ADVOCATE M.A.,L.L.M.,
 HIGH COURT OF A.P.
 CELL:9493494444,9966370959

ANNEXURE-1**Work Order to Agency****GOVERNMENT OF ANDHRA PRADESH
WATER RESOURCES DEPARTMENT**

From
Sri.R.Muralinatha Reddy, M.Tech, Chief
Engineer &DWRO,
Water Resources department,
Kurnool.

To
M/s SPML-NCC-MEIL (JV)
#S2, Technocrat Industrial Estate,Balanagar,
Hyderabad-500037

Lr.No.ICD32-TW/503/2020/DEE2/AEE1/RLI**dt. 27.08.2020.**

Gentlemen,

Sub: WRD - Rayalaseema Lift Scheme to draw and utilize 3 TMC per day from Sangameswaram to SRMC on D/s of Pothireddypadu Head Regulator for investigation, Design and estimation of A) Approach channel & crossings B) Lift systems Civil Works C) Lift system- Electro Mechanical works under EPC turnkey system - work order -issued - Regarding.

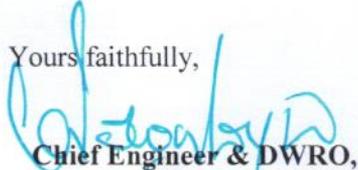
Ref: 1 Letter No. CE/KNL/ICD32-TW/401/2020/AEE5/RLI Dt: 19/08/2020
2.Hon'ble national Green Tribunal order dt.20.05.2020&13.7.2020.

Your tender for the above subject work was approved by the State Level Technical Committee on 18-08-2020 for an amount of Rs. **3307,06,63,247/- (Rupees Three thousand three hundred seven crores six lakhs sixty three thousand two hundred and forty seven only)** at +0.88% excess over the ECV value of Rs. **3278,18,55,104/-** and letter of acceptance was issued to you vide this office letter 1st cited with a request to conclude the agreement within 15 days.

In this connection, it is to inform that the **National Green Tribunal** in its **order dt.13.07.2020** made it clear that the interim order dt.20.05.2020 will not prevent the State of Andhra Pradesh from preparing the project report and calling for tenders for that purpose, but the actual execution of the work on ground can be done only after getting further orders from this Tribunal. Hence concluding the agreement for whole of the work is kept in abeyance pending further orders from Hon'ble NGT.

Pending formal agreement, you are requested to go ahead with detailed survey, Investigation preparation of detailed designs & drawings and detailed Estimate with cost analysis duly carrying out relevant soil explorations and other tests required for this purpose as part of para 2.1 of article 2 of tender document.

Yours faithfully,


Chief Engineer & DWRO,
WRD:: Kurnool

27/8/20

Committee report on location and alignment

INSPECTION REPORT ON RAYALASEEMA LIFT SCHEME TO DRAW AND UTILIZE 3 TMC PER DAY FROM SANGAMESWARAM TO SRMC @KM 4.00 FROM POTHIREDDYPADU HEAD REGULATOR BY SRI. K.SRINIVAS, M.Tech, Chief Engineer, CDO & Sri.R.MURALINATHA REDDY, M.Tech, Chief Engineer (P), Kurnool

Date of inspection : 12.11.2020

Officers Present :

1. Sri. Sk.KabirBasha, Superintending Engineer, SRBC circle No.1, Nandyal
2. Sri. M.L.N. Vara Prasad, Executive Engineer, SRBC Division No.2, Panyam
3. Sri. P.Subhakumar, Executive Engineer, SRBC Division No.4, Gorakallu@Nandyal.
4. Sri.A.VijayaBhaskar, Executive Engineer, Division No.2, CDO, Vijayawada
5. Sri. M.Kedareswara Reddy, Dy.Executive Engineer, Division No.2, CDO, Vijayawada

Preamble

The government of Andhra Pradesh has accorded Administrative Approval for Rayalaseema Lift Scheme to supplement 3TMC per day from Sangameswaram to SRMC downstream of Pothireddypadu Head Regulator for an amount of Rs.3825 crores vide G.O Rt.No.203 Dt:05.05.2020. It's main objective is to lift the water from Srisailam fore shore when the reservoir level is below +854.000ft and to supplement to the existing systems of TGP, SRBC, GNSS and Chennai drinking water supply. The work is entrusted to M/S SPML-NCC-MEIL (JV) for an amount of Rs.3109 crores on EPC turn key basis. The time period for completion is 30 months.

Methodology and Parameters of the scheme:

The water shall be drawn from the location just u/s of gorge near Sangameswaram temple (confluence of Bhavanasi with Krishna) through an approach channel upto pump house which shall be located above Reservoir FRL line and water lifted shall be delivered into a cistern and carried through a link canal to SRMC D/s of Pothireddypadu Head Regulator.

The Six alternative alignments (1A, 1B, 2A, 2B, 2C, 2D) proposed by the agency are examined during the inspection of above work site.

Alternative1:

In alternative 1A, pump house is proposed near Muchumarri and approach channel is proposed from Sangameswaram to pump house along ridge line.

In alternative 1B, pumphouse is proposed near N Ghanapuram and approach channel running along the valley adjacent to Bhavanasi river.

In both the proposals (1A & 1 B) the link canal proposed to run from Pump house along the FRL boundary on south bank of Bhavanasi river to deliver into SRMC d/s of Pothireddypadu Head Regulator.

Alternative2: (2A & 2 B) proposed to run the link canal from Pumphouses (proposed near Maadugula, opposite to 1A-1B midway for 2A and near Zadduvaripally, opposite to 1B for 2B) along the FRL boundary on North bank of Bhavanasi river and the approach channel running along the valley in Bhavanasi river in submerged area for a length of 11.9 Km in alternative 2A , 17.65 Km in Alternative 2B.

Alternatives (2C & 2 D) proposed with approach channel running along the valley in Bhavanasi river for a length of 17.59 Km in alternative 2C , 22.4 Km in Alternative 2D. In alternative 2 C, delivery carried through pipe line in to Delivery cistern constructed on left of SRMC d/s of Pothireddypadu Head Regulator. In alternative 2D , D.C directly connecting to SRMC @ Km 5.50. In Alt 2C, the pump house is proposed adjacent to PRHR in left flank. In Alt 2D, the pump house is proposed at the outer boundary of Bhavanasi-abutting SRMC Left bank.

The feasibility of the above alternatives are discussed during the inspection and the details are mentioned below.

Locating PH on either side of valley (Alt 1A, 1B, 2A & 2B) involves Link canal of various lengths to deliver water into SRMC from the Pump house. Since the Pothireddypadu Head Regulator/SRMC is located on the central ridge flanked on either side by atleast 2 large valleys, detouring them for link canal will make link canal length still longer and cutting across valleys (by single bund with overflow arrangements) though technically feasible, may not be permissible due to consideration of Reservoir encroachment.

The Alt-1A/1B are situated in KCC command area and Link canal/Approach channel runs on KCC- Bhavanasi slope valley and hence heavy seepage (due to KCC flow) induced geological/engineering/ construction uncertainties are anticipated, as experienced during construction of PS1/PS0/Mutchumarripumphouses. Further for excavation of Link canal land to be acquired, is of KCC command, which has already shrunk due to submersion under Srisaillam Reservoir. The hydraulic lift head will be higher.

Alt-2A/2B/2D with pump house near Maadugula/zadduvaripalli/SRMC- with elevated lands above FRL offers good scope for locating the pumphouse and approach channel. The length of link canal varies from 17.4 Kms for 2A, though more than Alt-1-B, and 5.61 Kms for 2B, runs in firm ground. However the long length of Link channels (2A&2B) and approach channel (2B& 2D) does have disadvantages.

Alt-2C with proposed Pumphouse adjacent to PRHR- on the elevated land of 100 acres already in possession of Department with approach channel similar to Alt-2B and directly deliver water into SRMC through pipeline/DC. This location offers lowest and direct water conveyance system. Though technical challenges are anticipated in Pump house construction, excavation of approach channel which is similar to other options and with minimum Link Canal for delivery, the uncertainties will be minimized.

For alternative 2C,

- a. Least length of conveyance system (18 Kms)
- b. Lowest capacity of pumps and motors (~450MWs)
- c. Least cost of Pumping (0.65 Cr/TMC)
- d. No land acquisition
- e. Lower operational cost & Convenience due to co-location with PRHR

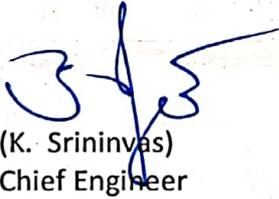
After examination of the above alternatives, the proposal 2C is preferred as the pumphouse is proposed adjacent to Pothireddypadu Head regulator and the approach channel along the drain network duly avoiding land acquisition by locating the components of work on the existing department land with less hydraulic losses.

During the inspection, it is observed that the Reservoir level nearly up to FRL, the water spread upto the intake of proposed Pumphouse location and hence the alignment of approach channel Alt2C couldnot be inspected physically.

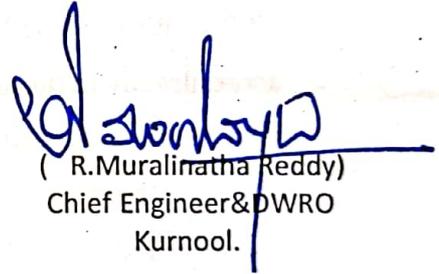
In view of the more technical feasibility of Alt 2C over the other alternative alignments, the alignment of alternative 2C can be tentatively approved with the following conditions.

1. The possibility of scouring/silt and debris deposition of Approach channel from the inflows of existing Bhavanasi drain network, when reservoir is near empty and run off is significant, needs to be examined during detail design phase.

2. Adequate measures to ensure safe passage of run-off from the drainage network into reservoir are to be taken and suitable measures, such as providing continuous spoil banks on either side of approach channel to divert drain water along the approach channel through catch drain, provision of Inlets if necessary at critical locations along the diverted drainage path shall be finalized after reservoir level recedes.



(K. Srinivas)
Chief Engineer
Central Designs Organisation
Vijayawada.



(R.Muralinatha Reddy)
Chief Engineer & DWRO
Kurnool.

ANNEXURE-3

Geologist Report

भारत सरकार/Government of India

भारतीय भूवैज्ञानिक सर्वेक्षण/ Geological Survey of India



अभियांत्रिकी भूविज्ञान विभाग / Engineering Geology Division
दक्षिणी क्षेत्र, बंदलागुड़ा/Southern Region, Bandlaguda
हैदराबाद /Hyderabad-500 068.

No. 43 /EGD/GSI/SR/2020

Dated: 04/12/2020

To
The Executive Engineer,
Water resource department,
SRBC Division No. 2,
Panyam, Andhra Pradesh.

Sub: A Inspection note on "Feasibility Stage Geotechnical Investigation of the proposed pump house near Pothulapadu village under Rayalaseema Lift Irrigation Scheme, Kurnool District, Andhra Pradesh" – reg.

Sir,

Please find enclosed herewith a "Feasibility Stage Geotechnical Investigation of the proposed pump house near Pothulapadu village under Rayalaseema Lift Irrigation Scheme, Kurnool District, Andhra Pradesh" for Field Season 2020-21.

This is for your kind necessary action at your end.

Yours faithfully,

(बी अजय कुमार/B. Ajaya Kumar)

निदेशक /Director

Encl: As above.

**Inspection Note on Feasibility Stage Geotechnical Investigation of the
proposed pump house near Pothulapadu village under Rayalaseema Lift
Irrigation Scheme, Kurnool District, Andhra Pradesh**

By

B. Ajaya Kumar,
Director
Engineering Geology Division
Geological Survey of India
Hyderabad

Under Rayalaseema Lift Irrigation Scheme a 250m long, 40 m wide pump house is proposed to lift (60m) 3 TMC water per day from Srisailam Reservoir to SRMC on downstream from Pothireddypadu Head Regulator to stabilize the ayacut of the various projects in Rayalaseema Region and Nellore district including providing drinking water to the drought prone region. The project will facilitate to draw assured /allocated water. The project will allow drawing water even during the lean periods in Krishna River.

The Water shall be drawn thorough an Approach channel. Pump House shall be located beyond FRL line and Water lifted shall be delivered into a Cistern. Water carried through a Link canal, from delivery cistern to SRMC downstream of Pothireddypadu Head Regulator (PRHR)

The Discharge Required in SRMC & capacity of PRHR- and status of SRMC decide WHEN lift has to operate Below 841' level- drawal only by Lift & Between 841' to 874' Drawal will be either by Lift OR Gravity flow depending on required 'discharge' & Srisailam Reservoir level.

The proposed scheme details furnished by project authority are as follows:

1. Approach channel: The approach channel is proposed in the Srisailam fore shore area up to proposed fore bay at left side of existing Pothireddypadu Head Regulator. The approach channel traverses along the valley in Bhavanasi river in Srisailam foreshore area for a required length.
2. Forebay: Forebay of required size is to be constructed from the end of approach channel upto the pump house.
3. Pump house:
 - The pump house is to be constructed to required size to accommodate required 12 no of pumps and motors and operating system.
 - 12 no of volute pumps of 81.93 cumecs capacity each.

- *Power requirement: 420 MW*
 - H.T/L.T Panels, SCADA, HT/LT Cables, HM/EM Components as per approved drawings.
 - Water drawing level :+243.85 m/800.0 ft and above
 - Delivery level :+269.82 m /885.144 ft
4. Pipe line: The M.S pipe line is proposed from pump house to Delivery Cistern up to the required level. Diameter of Delivery main is 5000mm
 5. Construction of One Delivery Cistern of required size.
 6. Excavation of Link Canal to connect it from delivery cistern to SRMC down stream of Pothireddypadu Head Regulator.
 7. Providing infrastructure
 - i. Road to the pump station.
 - ii. 400KV Sub-station and electrical power line from the existing HT lines.

At the request of the Executive Engineer, Water resource department, SRBC Division No. 2, Panyam, Andhra Pradesh via letter No. EE/SRBC-DIV.No2/PNM/AW/ATO/511M, dated 17.10.2020 to carryout feasibility stage Geotechnical investigation of the proposed pump house and auxiliary works of Rayalaseema Lift Scheme, the undersigned along with Shri. Bhushan D Kuthe, Senior Geologist visited the site on 30th and 31st October 2020 and carried out core logging of drilled boreholes and geological mapping of the proposed pump house location.

Feasibility Stage Geotechnical Investigation for proposed pump house location:

The proposed pump house is located approximately 100m in north eastern part of Pothireddypadu head regulator.

Regionally, area exposes mainly sediments of Cuddapah Supergroup and Kurnool Group of Meso to Neo-Proterozoic age. A small patch of migmatite and granite gneiss belonging to Peninsular Gneissic Complex (PGC-II) of Archaean to Palaeo-Proterozoic age is exposed in the northwestern part of the area. The Cuddapah Supergroup is divided into Chitravati and Nallamalai Groups and occurs in the northeastern part. The Chitravati Group is represented by the Pulivendla Formation and Tadipatri Formation. The Pulivendla Formation is essentially an arenaceous unit. It has a thin impersistent basal conglomerate followed by grit and quartzite. The

Tadipatri Formation is constituted by shale, tuff, chert and jasper and lies conformably over Pulivendla Quartzite.

The Nallamalai Group is represented by Cumbum Formation which is exposed in the northeast. It consists of slate, phyllite and shale sequence with intercalations of quartzite.

The Kurnool Group of rocks unconformably overlies the Cuddapah Supergroup. They include Banaganapalle, Narji, Owk, Paniam, Koilkuntla and Nandyal Formations. The oldest unit in this area is Banganapalle Quartzite which is exposed in the northwest. The Narji Limestone, with massive and flaggy members, is exposed in the western margin. The overlying Owk Shale lies directly over Narji Limestone. It occurs as a thin but persistent band preserved due to capping of Paniam Quartzite over it. The shale is predominantly non-calcareous, white, buff or yellow and is often ochrous. Paniam Quartzite occurs capping the Owk Shale, forming plateau. Koilkuntla limestone occurs in the western and northern

The major part of the proposed pump house location is covered with the disposed muck excavated while the construction of Pothireddypadu head regulator. However, the reddish brown, thinly laminated, horizontally bedded shale belonging to Nandyal shale of Kurnool Supergroup is exposed in the cut slopes of adjacent Srisailam Right Main canal.

Sub-surface Exploration:

. The project authority has drilled 04 boreholes up to a depth of 70m in the surrounding area of the proposed pump house location and borehole 5 is in progress. Based on the core logging, it is found that thickness of top layer of dark grey to black clayey soil is varying from 1.5 to 4.5m followed by thinly laminated, reddish brown shale with thin laminations of grey shale up to the bottom of the borehole. The summary of the core logging is given below.

Borehole No.	Location	Drilled Depth	Run	Remark
01	Near PRP inspection path on R/S of PH location	70m	0 to 2m	Black clayey soil
			2 to 4m	Highly weathered, reddish brown shale
			4 to 5.8m	Moderately weathered reddish brown shale with thin lamination of shale
			5.8 to 70m	Slightly weathered to fresh, reddish brown shale with thin laminations of grey shale.
02	PRP pump house & DC	70m	0 to 3m	Black clayey soil
			3 to 4.5m	Highly weathered, reddish brown shale

			4.5 to 6.0m	Moderately weathered reddish brown shale with thin lamination of shale
			6m to 70m	Slightly weathered to fresh, reddish brown shale with thin laminations of grey shale.
03	Approach Channel (Right side)	70m	0 to 4.5m	Black clayey soil
			4.5 to 6m	Highly weathered, reddish brown shale
			6 to 8.5m	Moderately weathered reddish brown shale with thin lamination of shale
			8.5 to 70	Slightly weathered to fresh, reddish brown shale with thin laminations of grey shale. Silicification was recorded between 63-66m depth.
04	Approach Channel (Left side)	70m	0 to 3	Black clayey soil
			3 to 6m	Highly weathered, reddish brown shale
			6 to 8m	Moderately weathered reddish brown shale with thin lamination of shale. Silicification was recorded between 6-8m depth.
			8 to 70m	Slightly weathered to fresh, reddish brown shale with thin laminations of grey shale.

Conclusion & Recommendations:

- Based on the geological set up of the area and borehole core logging, it is opined that the proposed location of the pump house is prima-facie feasible.
- Suggested to remove the disposed muck and to intimate for further geological mapping before start of concrete.
- Based on the core logging, it is expected to encounter a slightly fresh to fresh rock below a depth of about 8 to 10m from the ground level.
- Suggested to drill 3 boreholes along the center line of the proposed pump house location to ascertain the nature of bed rock and also to estimate the stability of the slopes during the construction of the proposed pump house.


 04/12/2020
B. Ajaya Kumar
 Director

ANNEXURE-4

Forest letters and Map

GOVERNMENT OF ANDHRA PRADESH
FOREST DEPARTMENT

From
Sri Y.Srinivasa Reddy, IFS.,
Conservator of Forests & Field Director (FAC),
Project Tiger Circle,
Srisailam.

To
The Chief Engineer & DWRO,
Water Resource Department,
Kurnool.

Rc.No.1055/2021/TO, dated: 27.06.2021

Sir,

Sub:- Extent and boundaries of Eco-Sensitive Zone of Nagarjuna Sagar Srisailam Tiger Reserve – Proposed Pump House to ESZ – Details furnished – Reg.

- Ref:- 1. Chief Engineer & DWRO, Water Resources Dept., Kurnool Lr.No.CE/KNL/ICD32 -TW/2021/DEE2/AEE1/Rt.I, Dt: 26.06.2021.
2. CF & FDPT Srisailam Rc.No.1055/2021/TO, dated 26.06.2021.
3. DFO, WL, Atmakur Rc.No.660/2021/A7, dated 26.06.2021.

** ** *

Adverting to the reference 1st cited, it is informed that, the Divisional Forest Officer, Wildlife Division, Atmakur has submitted the report vide reference 3rd cited, duly inspecting the proposed project pump houses on 26.06.2021 along with Forest Range Officer, Atmakur, Velugodu and project authorities of Water Resources Department, Kurnool with reference to the co-ordinates i.e., Latitude – 15° -54' – 15" N & Longitude – 78°-25'-34" E . The Divisional Forest Officer has also reported that the distance to the proposed pump house from the Eco-Sensitive Zone of Nagarjunasagar Srisailam tiger Reserve falls in Compt. No.824 of Sivapuram Beat of Atmakur Range is about 11.544 KM and in Compt. 652 of Velgode (West) Beat of Velgode Range is 13.913 KM as per the Gazette Notification No.595, dated 11th February, 2020 issued by the GOI, MoEF & CC, New Delhi. The report of the Divisional Forest Officer, Wildlife Division, Atmakur along with map is herewith enclosed for information and necessary action.
Encl: as above.

Yours faithfully,
Sd/- Y.Srinivasa Reddy,
Conservator of Forests & Field Director (FAC),
Project Tiger Circle, Srisailam.

Copy to the Divisional Forest Officer, Wildlife Division, Atmakur for information.

//t.c.b.o//


Technical Officer

**GOVERNMENT OF ANDHRA PRADESH
FOREST DEPARTMENT**

From
Sri D.A.Kiran, S.F.S.,
Divisional Forest Officer,
Wildlife Management Division,
ATMAKUR

To
The Conservator of Forests &
Field Director,
Project Tiger Circle,
SRISAILAM

Rc.no. 660/2021/A7, Dated. 26-06-2021.

Sir,

Sub:- Extent and boundaries of Eco-Sensitive Zone of Nagarjuna Sagar Srisailam Tiger Reserve in Rajiv Gandhi Wildlife Sanctuary details of Existing Guideline – Report submission of – Regarding.

Ref:- 1) Chief Engineer & DWRO, Water Resources Dept., Kurnool Lr.no. CE/KNL/ICD32 –TW/2021/DEE2/AEE1/RL1, Dt: 26.06.2021.
2) CF & FD PT Srisailam Rc.no. 1055/2021/TO, Dated: 26.06.2021.

** ** **

With reference to the letter 2nd cited, it is submitted that, I have inspected the area which is proposed for pump houses on 26-06-2021 along with Forest Range Officer, Atmakur, Velgode and Project authorities of Water Resource Department, Kurnool with reference to the coordinates i.e., Latitude-15^o -54'-15" N & Longitude – 78^o-25'-34"E and the said location GPS Coordinates mentioned in the reference 1st cited is found correct.

Further, it is submitted that, the distance to the proposed project pump house from the Eco-Sensitive Zone of Nagarjunasagar Srisailam Tiger Reserve in Compt. no. 824 of Sivapuram Beat of Atmakur Range is 11.544 Km and Compt. no. 652 of Velgode (West) Beat of Velgode Range is 13.913 Km as per the Gazette Notification no. 595, Dated. 11th February 2020 issued by the MoEF & CC, New Delhi.

A copy of the Map along with Draft Notification is submitted herewith for ready reference.

This is submitted for favour of information and necessary action.

Encl:- As above

Yours faithfully,
Sd/-D.A. Kiran,
Divisional Forest Officer,
Wildlife Management, Atmakur

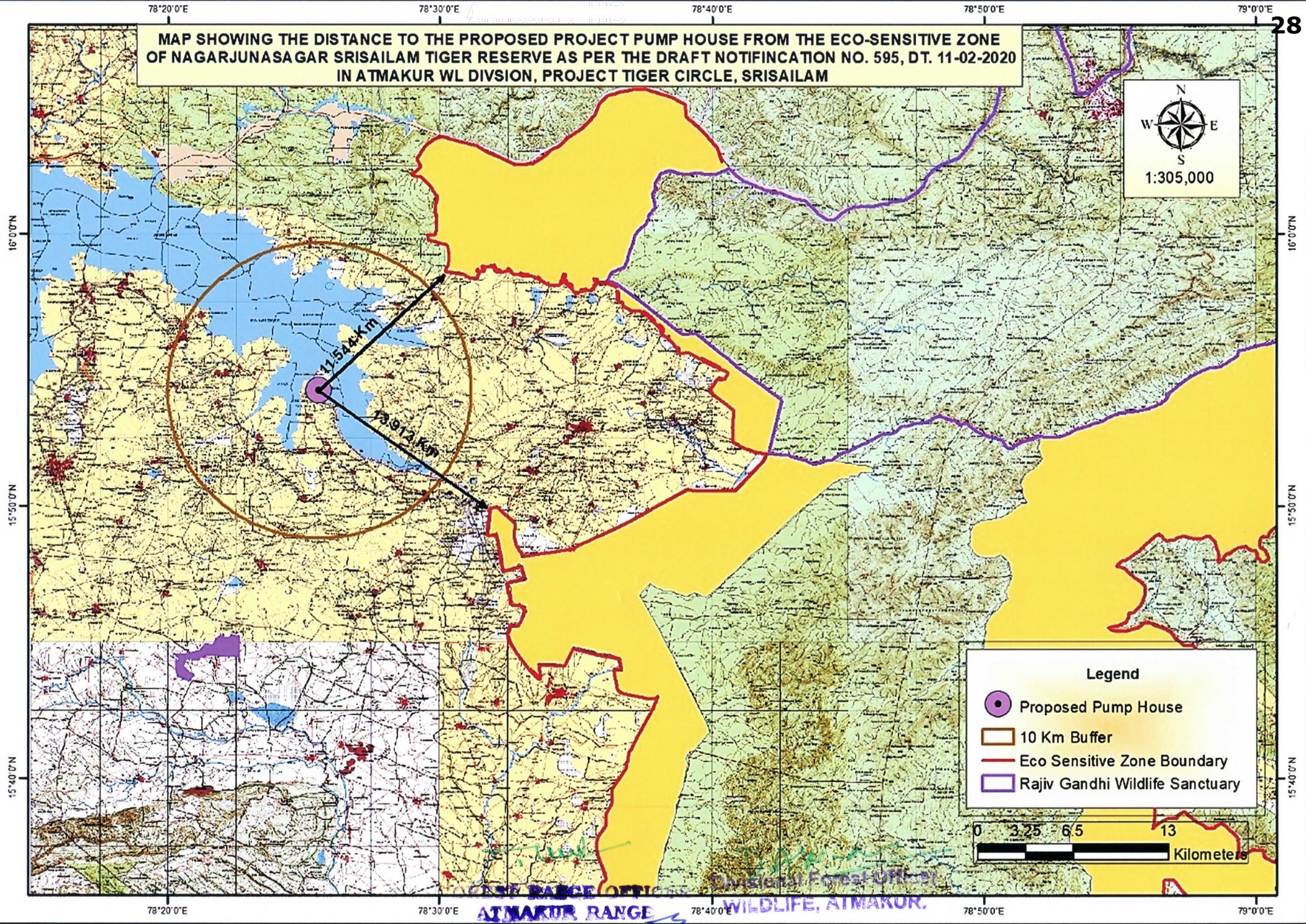
Copy to the Chief Engineer & DWRO, Water Resource Department, Kurnool for information.

//T.C.B.O//

Superintendent.

26/6

MAP SHOWING THE DISTANCE TO THE PROPOSED PROJECT PUMP HOUSE FROM THE ECO-SENSITIVE ZONE OF NAGARJUNASAGAR SRISAILAM TIGER RESERVE AS PER THE DRAFT NOTIFICATION NO. 595, DT. 11-02-2020 IN ATMAKUR WL DIVISION, PROJECT TIGER CIRCLE, SRISAILAM



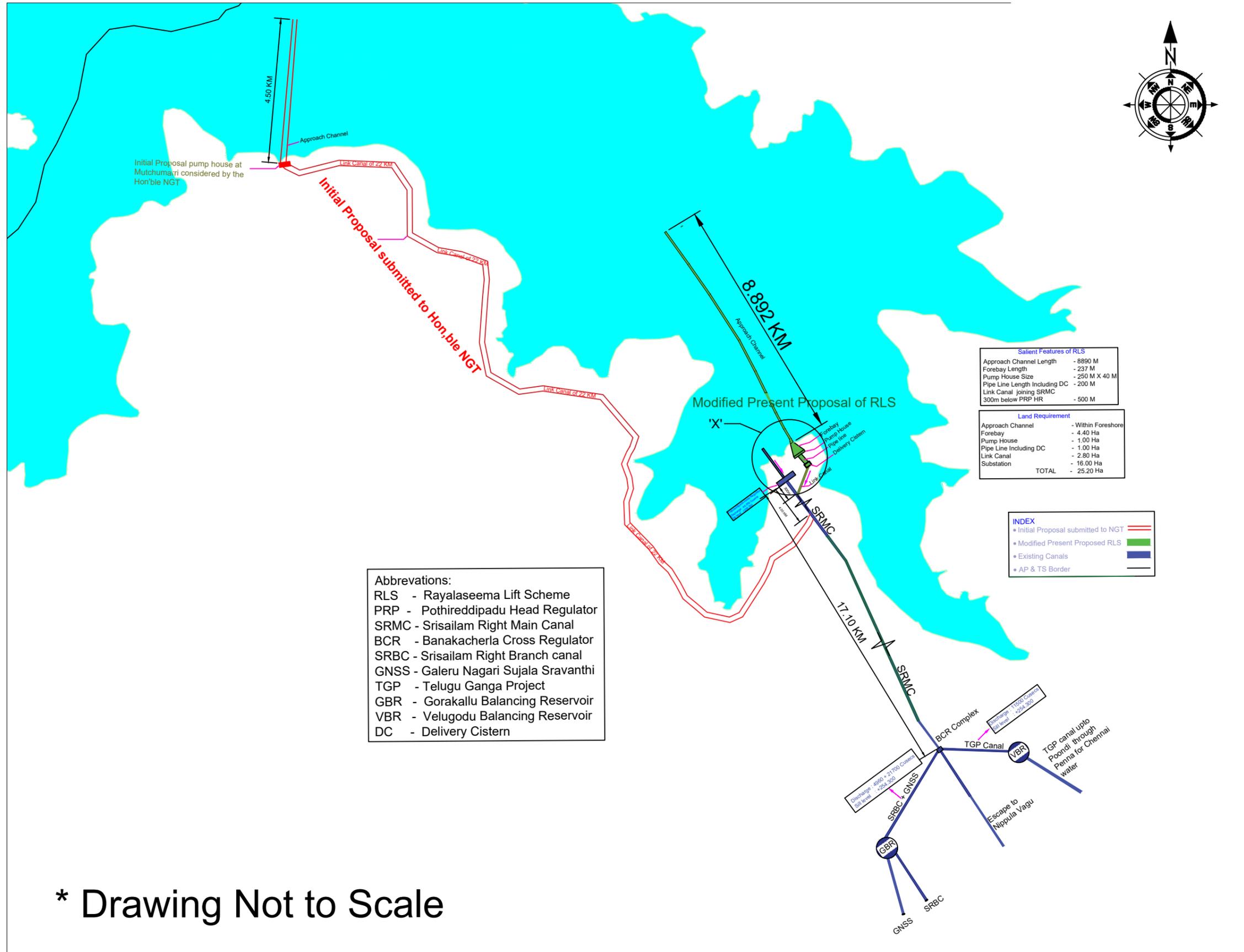
Legend

-  Proposed Pump House
-  10 Km Buffer
-  Eco Sensitive Zone Boundary
-  Rajiv Gandhi Wildlife Sanctuary



Divisional Forest Officer
ATMAKUR RANGE WILDLIFE, ATMAKUR.

Initial and Modified Proposal Map of RLS



ANNEXURE-6

Online Acknowledgement of DPR submission to CWC



Project Appraisal Management System

(e-PAMS)



R. Muralinatha Reddy (apce2)
Log Out

Detailed Project Report(DPR)-Status

Name Of Project :	Rayalaseema Lift Scheme to lift water to SRMC feeding 3 Schemes which are presently drawing water by gravity from foreshore of Srisaitham Reservoir viz. GNSS SRBC and TGP Kurnool District Andhra Prades
Project ID :	
Proposal Type :	Detailed Project Report(DPR)
Purpose :	New
Submitted On :	30/06/2021
Proposal Status:	In Process (Communication Required)

Communication Receive : Yes [View Communication History](#)

Appraisal

Received Date	From User	To User	Forward User	Action Date	Action	Action Comment	View
30/06/2021		Chief Engineer, PAO, CWC ceprjap	Project Appraisal, South, CWC pasdte-cwc	01/07/2021	Forward	Please get it examined	
01/07/2021	Chief Engineer, PAO, CWC ceprjap	Project Appraisal, South, CWC pasdte-cwc					View Appraisal

7/12/2021

Gmail - ePAMS- Your Detailed Project Report(DPR) Proposal Submitted Successfully



Chief Engineer Kurnool <cepkurnool@gmail.com>

ePAMS- Your Detailed Project Report(DPR) Proposal Submitted Successfully

2 messages

no-reply-cwcepams@gov.in <no-reply-cwcepams@gov.in>

Wed, Jun 30, 2021 at 9:58 PM

To: cepkurnool@gmail.com

Cc: sbkr2001@gmail.com

Dear R. Muralinatha Reddy ,

Your Detailed Project Report(DPR) Proposal for Project Name Rayalaseema Lift Scheme to lift water to SRMC feeding 3 Schemes which are presently drawing water by gravity from foreshore of Srisaillam Reservoir viz. GNSS SRBC and TGP Kurnool District Andhra Prades **has been submitted successfully**. A Presentation in this regard may be prepared at your end. Prospective date for the presentation shall be communicated to you shortly.

This is system generated mail. Please do not reply.

ANNEXURE-7 Acknowledgement of DPR submission to KRMB

GOVERNMENT OF ANDHRA PRADESH WATER RESOURCES DEPARTMENT

From
Sri R.Muralinatha Reddy, M.Tech.,
Chief Engineer & DWRO,
Water Resources Department,
Kurnool.

To
The Member Secretary,
Krishna River Management board,
5th floor, Jalasoudha, Errummanzil,
Hyderabad.

Lr.No. ICD32-TW/1/2021/DEE2/AEE1/RLS/DPR, Date 01.07.2021.

Sir,

Sub: **RLS- Rayalaseema Lift Scheme to supplement '3' TMC per day from Sangameswaram to SRMC from Pothreddypadu Head Regulator-Submission of DPR - Regarding.**

Ref: 1.G.O.Rt.No.203 dt.05.05.2020.
2.Minutes of 2nd Apex council held on 6.10.2020.
3.Lr.No.1569/1/IS.EA/2014 Dt.11.11.2020 the special Secretary to Govt addressed to the KRMB.
4. KRMB vide F.No.2/04/2020/KRMB/44/-46 dt.08.01.2021.

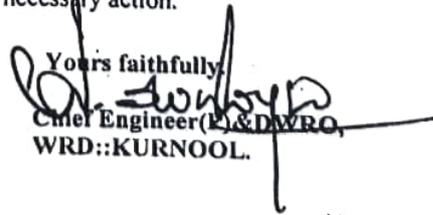
With reference to the above, it is to inform that, the 2nd Apex council meeting was held on 6.10.2020 under the chairmanship of Hon'ble union Minister of Jalshakthi, Government of India with Hon'ble Chief Ministers of Telengana & Andhra Pradesh. During the meeting, the Minister of Jalashakthi, Government of India directed that as per section 84(3)(ii), 85 8(d) end Para -7 of XI schedule of APRAS 2014, the states bound to submit the DPRs of new projects to KRMB&GRMB.

In this connection, the secretary to Government vide ref.3rd cited has submitted the Detailed Project Report of Rayalaseema lift scheme. The KRMB vide letter 4th cited has requested to submit the DPR for appraisal as per the guidelines of Ministry of Jal Shakthi for preparation of DPR for Irrigation and Multipurpose project (2010). Accordingly the work of preparation of detailed project report (DPR) was assigned to WAPCOS consultants.

The detailed project report of Rayalaseema Lift Irrigation Scheme as prepared by the M/s WAPCOS Ltd was uploaded on the website of the Central Water commission, New Delhi i.e www.cwc.gov.in through epams portal on 30.06.2021. The hard copy of the detailed project report is herewith enclosed.

This is submitted for favour of information and necessary action.

Encl:
1.DPR for Rayalaseema Lift Scheme.
2. Acknowledgement receipt of CWC.

Yours faithfully,

Chief Engineer (R&DWRO),
WRD::KURNOOL.



ANNEXURE-8

Submission of EC application to MoEF

PARIVESH परिवेश		Ministry of Environment, Forest and Climate Change Government of India							
"Pro Active and Responsive facilitation by Interactive and Virtuous Environmental Singlewindow Hub"									
Home About MoEFCC Acts, Rules & Guidelines Notifications Agenda & MoM Track your proposal Useful Links Downloads Contacts FAQs									
								Essential Details Sought by MoEFCC	TimeLine Details
1	Proposal No : IA/AP/RIV/214491/2021 File No : To be assigned Proposal Name : Rayalaseema Lift Scheme to lift water for 3 schemes which are presently drawing water by gravity from foreshore of Srisaillam reservoir viz. 1. Galeru Nagari Sujala Shravanthi (GNSS) Project in District Kurnool, Andhra Pradesh. 2. Srisaillam Right Branch Canal, Andhra Pradesh. 3. Telugu Ganga Project, Andhra Pradesh.	State : District : Tehsil :	Date of Submission for EC : 09 Jun 2021	River Valley and Hydroelectric Projects		Amendment			

ANNEXURE-9

Expert Committee report to expose foundation

Joint Inspection Notes of Technical Expert Committee consisting of Sri K. Srinivas, Chief Engineer Central Designs Organisation, Vijayawada, Sri. M. Giridhar Reddy, Chief Engineer (Retd.), Central Designs Organisation, Vijayawada and Sri.R.Muralinadha Reddy, M.Tech, Chief Engineer, Kurnool and Co-ordinator.

Date of Inspection- 23-01-2021

Officers Present :

- | | |
|---|--|
| <p>1. Sri. Sk.Kabeer Basha
Superintending Engineer,
SRBC circle No.1, Nandyal</p> <p>2. Sri. P.Subhukumar,
Executive Engineer,
SRBC Division No.4, Gorakallu@Nandyal.</p> | <p>2. Sri M.L.N. Varaprasad
Executive Engineer
SRBC Division No.2, Panyam.</p> |
|---|--|

Name of Work: **Rayalaseema Lift Scheme to supplement 3 TMC per day from Sangameshwaram to SRMC on D/s of Pothireddypadu Head Regulator, Kurnool District, Andhra Pradesh.**

Preamble

The government of Andhra Pradesh has accorded Administrative Approval for Rayalaseema Lift Scheme to supplement 3TMC per day from Sangameswaram to SRMC downstream of Pothireddypadu Head Regulator for an amount of Rs.3825 crores vide G.O Rt.No.203 Dt05.05.2020. It's main-objective is to lift the Water from Srisalilam fore shore when the reservoir level is below 854.000ft and to supplement to the existing systems of TGP, SRBC, GNSS and Chennai drinking water supply. The work is entrusted to M/S SPML-NCC-MEIL (JV) for an amount of Rs 33070663247/- on EPC turn key basis. The time period for completion is 30 months. As per the agreement conditions the agency has to conduct Detailed Investigations for the preparation of Detailed Project Report (DPR) and to conclude second stage agreement. The Ministry of Jal Shakti also instructed to submit the Detailed Project Report (DPR) .

Methodology and Parameters of the scheme:

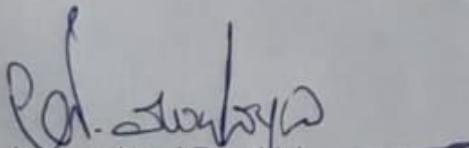
The water shall be drawn from the location just u/s of gorge near Sangameswaram temple (confluence of Bhavanasi with Krishna) and drawn through an approach channel up to pump house which shall be located above Reservoir FRL line and water lifted shall be delivered into a cistern and carried through a link canal to SRMC D/s of Pothireddypadu Head Regulator.

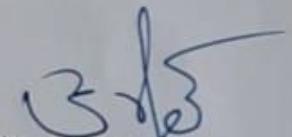
The location of the Pump House and alignment of Approach Channel were finalized during the joint inspection conducted on 12-11-2020. In this proposal, the Pump House is located adjacent to the existing Pothireddypadu Head Regulator.

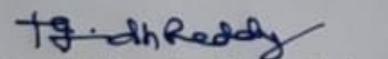
Detailed investigations and excavation for the suitability of foundation strata are under progress. The General Electro Mechanical Drawing approved by the APGENCO, Vijayawada and preparation of Detailed Designs and Drawings are under progress. During investigations it is found that the Strata below ground level mostly consists of Nandyal Shales of Kurnool super group variety of Rock Strata. The Geologist team from GSI also inspected the site and examined the Bore Hole core logging data and given its prima facie feasibility report.

The tentative sectional drawings of Pump House proposed by the agency shown the deepest foundation level around elevation +216.76 M, where as the ground level is around + 271.00 M. After observing the partially excavated strata it is difficult to assess the suitability of the strata for foundation of such a huge structure without seeing the actual strata at required foundation level and conducting the mandatory tests like Plate Load Test for assessing the bearing capacity of the strata. Hence it is recommended to excavate the pump house foundations up to the required foundation level and conduct the mandatory test viz Plate Load test to assess the exact nature of the strata and its bearing capacity for locating the huge structure like Pump House. The necessary civil design and drawings which are very much necessary for preparation of DPR can be approved only after assessing the exact nature of the strata and its characteristics.

Conclusion : It is advised to excavate up to the tentative foundation level of the Pump House and observe the strength characteristics of the strata and conduct the mandatory tests at foundation level (viz) Plate Load Test and submit to the committee for further course of action.


(R. Muralinatha Reddy)
Chief Engineer & DWRO
Kurnool
Co-ordinator, Expert Committee.


(K. Srinivas)
Chief Engineer
Central Designs Organisation
Vijayawada
Member, Expert Committee.


(M. Giridhar Reddy)
Chief Engineer (Retd.)
Central Designs Organisation
Vijayawada
Member, Expert Committee.