

कार्यालय प्रभागीय वनाधिकारी,पिथौरागढ़ वन प्रभाग,पिथौरागढ़।

E-mail: dfopithoragarh@rediffmail.com Fax & 05964- 225234

पत्रांक:- 5761 / दिनांक, पिथौरागढ़, 29, जनवरी, 2022।

सेवा में,

वन संरक्षक,
उत्तरी कुमाऊँ वृत्त,
उत्तराखण्ड, अल्मोड़ा।

विषय:- Regarding transfer of 9.397 hac forest land for construction of Tankul 12 MW Small hydro Project at tehsil Dharchula of district Pithoragarh in the name of UJVN Limited (FP/UK/HYD/42080/2019).

सन्दर्भ:- 63rd REC Meeting held on 29-12-2021.

महोदय,

उक्त विषयांकित 12 मेगावाट तांकुल लघु जल विद्युत परियोजना अन्तर्गत REC की 63rd मीटिंग में लगायी गयी आपत्ति का प्रस्तावक विभाग द्वारा निम्न प्रकार निराकरण किया गया है।

S.No.	Observation/Condition	Reply
1.	The project proponent will provide detailed technical reasons for taking swell factor 16 % and if there is a need to revise the swell factor, a revised muck dumping plan should be submitted along with additional requirement of area, if any. The revised dumping plan will be circulated among the members for their recommendations and consent.	<p>Muck to be used locally during construction (148865.53 + 17500 = 166365.53). About 95 % muck out of 166365.53 cum will be used for concrete & filling works at various structures. Swell factor of excavated rock is above 40 % but when excavated rock is converted into gravels ranging from 20 mm to 40 mm swell factor of crushed stones considerably reduces to below 15 %.</p> <p>For concrete works, excavated boulders will be converted in to aggregates having size from 20 mm to 40 mm by manual means. Swell factor for crushed stone is estimated around 15 %. Material proportion of aggregates to be used for concrete works is based on weight instead of volume, therefore, swell factor doesn't impact the quantity of gravels (crushed aggregates) to be used locally for concrete works. For concrete works vibrators are used for compaction of concrete. Use of vibrators will further reduce the voids from 8 to 10 %.</p> <p>Filling works in the project area and muck disposal at designated site will be done with 20 % compaction using mechanical means. In all the muck dumping sites, the muck brought in dumpers shall be dumped and manually spread behind the crates and roller compacted in such a manner that rock mass is properly stacked behind the crates with minimum of voids.</p> <p>In view of above said facts, swell factor has been taken as 16%.</p>

भवदीय,

प्रभागीय वनाधिकारी,
पिथौरागढ़ वन प्रभाग, पिथौरागढ़।

The following table lists swell factors for various engineering materials:-

Material	Swell (%)
Clay	
Dry	40
Wet	40
Clay and gravel	
Dry	40
Wet	40
Coal, anthracite	35
Coal, bituminous	35
Earth, loam	
Dry	25
Wet	25
Gravel	
Dry	12
Wet	12
Gypsum	74
Hardpan	50
Limestone	67
Rock, well blasted	65
Sand	
Dry	12
Wet	12
Sandstone	54
Shale and soft rock	65
Slate	65
Traprock	65

R. Singh
18/1/2022
अधिष्ठासी अभियन्ता
यूजेवीएन लिमिटेड
मुनस्थारी (पिथौरागढ़)