

Comments of SJVN on Draft
Central Electricity Regulatory
Commission (Indian Electricity
Grid Code) Regulations, 2022

Peculiar Issues of Hydro Generating stations

A) Declared Capacity (Regulation 45):

- To declare ex-bus Declared Capacity of generating stations, limited to 100% MCR, on day ahead basis during low inflow season- Contrary to CERC order in the petition no. 74/MP/2018 order dtd. 11.07.2018, wherein incentive has been passed on to the generator in readiness for providing much needed grid support in case of frequency excursion.

B) Revision of schedule after 7th or 8th time block of Regional Entity (Regulation 47 (3)(b):

- In the event of bottleneck in evacuation of power due to outage, failure or limitation in the transmission system or any other constraint necessitating reduction in generation-Generator has no control over such situation, so generator should not be penalized and therefore schedule generation may be replaced with Actual generation during such period.

C) Revision of schedule after 7th or 8th time block of Regional Entity (Regulation 47 (4)(C): - Exceptional circumstances of Hydro projects during High silt, cloud burst, heavy rain and flash flood in the river.

Such Exceptional circumstances are forced majeure condition and generator has no control over on such situations and therefore schedule generation may be replaced with Actual generation during such period.

Regulation 45 (General Provisions) Clause 8:

Regulation 45 of Draft IEGC Regulations	Comments of SJVN
<p>8) Declaration of Declared Capacity by Regional entity generating stations</p> <p>The regional entity generating station shall declare ex-bus Declared Capacity, limited to 100% MCR, on day ahead basis as per provisions of Regulation 47 of these regulations.</p> <p>Provided that in case of REGS or ESS the available capacity shall be declared by such regional entity generating station.</p>	<p>The proposed draft regulation, limits the declaration by the generating stations upto 100% MCR, which is contradictory in line with CERC order in the petition No. 74/MP/2018 order dtd. 11.07.2018. The para 18 of the tariff order is reproduced here as under:</p> <p><i>The Amendment in the Regulation 5.2 (h) of the Grid Code was necessitated for ensuring that the margins for primary response in case the DC is above 100% of installed capacity corrected to auxiliary consumption. Further, to ensure proper incentive for the generator for keeping units in readiness for providing much needed grid support in case of frequency excursion, the generator has been allowed to declare above installed capacity by including overload margins provided water is available for such generation. This has also been made amply clear in the Statement of Reasons to the Fifth Amendment to the Grid Code which was issued on 13.4.2018. Relevant Portion of the SOR is extracted as under:</i></p>

Regulation 45 (General Provisions) Clause 8:

Regulation 45 of Draft IEGC Regulations	Comments of SJVN
<p>8) Declaration of Declared Capacity by Regional entity generating stations</p> <p>The regional entity generating station shall declare ex-bus Declared Capacity, limited to 100% MCR, on day ahead basis as per provisions of Regulation 47 of these regulations. Provided that in case of REGS or ESS the available capacity shall be declared by such regional entity generating station.</p>	<p>13.2.8 We are of the view that declaration of capacity including overload margins is the prerogative of the generator. Generator based on its experience about the healthiness of the units is allowed to declare its declared capability based on machine and fuel/water availability. However, it was being observed that units which were scheduled beyond ex-bus capability corresponding to 100% of IC were not able to provide primary response as these units were operating on VWO mode leaving no margins for further valve opening by governor action during frequency decrease. As such, through the addition in Regulation 5.2 (h), of IEGC, RLDCs/SLDCs have been allowed not to schedule the units beyond ex-bus generation corresponding to 100% of installed capacity. However, for the purpose of calculation of PAF, DC declared by the generator is not to be reduced. This would ensure proper incentive for the generator for keeping units in readiness for providing much needed grid support in case of frequency excursion.”</p>

Regulation 45 (General Provisions) Clause 8:

Regulation 45 of Draft IEGC Regulations	Comments of SJVN
<p>8) Declaration of Declared Capacity by Regional entity generating stations</p> <p>The regional entity generating station shall declare ex-bus Declared Capacity, limited to 100% MCR, on day ahead basis as per provisions of Regulation 47 of these regulations.</p> <p>Provided that in case of REGS or ESS the available capacity shall be declared by such regional entity generating station.</p>	<p>Hence, the generating station can declare based on the availability of fuel/source of energy and capability of machines. Therefore, this regulation may be proposed as under:</p> <p><i>“The regional entity generating station shall declare ex-bus Declared Capacity based on installed capacity including overload capability, if any, minus auxiliary consumption (depending on availability of fuel/inflow) on day ahead basis as per provisions of Regulation 47 of these regulations.</i>”</p>

Regulation 47 (3)(b):

Regulation 47(3)(b) of Draft IEGC Regulations	Comments of SJVN
<p>In the event of bottleneck in evacuation of power due to outage, failure or limitation in the transmission system or any other constraint necessitating reduction in generation, the RLDC shall revise the schedules.</p> <p>Provided that generation and drawal schedules revised by the Regional Load Despatch Centre shall become effective from 7th block or 8th block depending on time block in which schedule has been revised as first time block.</p>	<p>Chapter 6.5 (Scheduling and Despatch procedure for long term access, Medium term and short-term open access) clause no. 16 of prevailing IEGC Regulations is reproduced here as under::</p> <p><i>“16. In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and substations owned by the Central Transmission Utility or any other transmission licensee involved in inter-state transmission (as certified by the RLDC) necessitating reduction in generation, the RLDC shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second- and third-time blocks of such an event, the scheduled generation of the ISGS shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised accordingly”.</i></p>

Regulation 47 (3)(b):

Regulation 47(3)(b) of Draft IEGC Regulations	Comments of SJVN
<p>In the event of bottleneck in evacuation of power due to outage, failure or limitation in the transmission system or any other constraint necessitating reduction in generation, the RLDC shall revise the schedules.</p> <p>Provided that generation and drawal schedules revised by the Regional Load Despatch Centre shall become effective from 7th block or 8th block depending on time block in which schedule has been revised as first time block.</p>	<p><i>In the draft IEGC Regulations, in the event of bottleneck in evacuation of power due to outage of transmission lines, the schedule of generators shall be revised from 7th or 8th time block. This will lead to additional DSM penalty to the generators upto 7th or 8th time block. The tripping of transmission is beyond the control of generators, therefore in such cases generator should not be penalized.</i></p> <p><i>Therefore, it is proposed that this clause may be represented as under:</i></p> <p>“(b)In the event of bottleneck in evacuation of power due to outage, failure or limitation in the transmission system or any other constraint necessitating reduction in generation, the RLDC shall revise the schedules.</p> <p>The revision in schedule shall become effective from the 7th/8th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first to seventh/eighth time blocks of such an event, the scheduled generation of the ISGS shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised accordingly”.</p>

Regulation 47 (4)(c):

Regulation 47(4)(C) of Draft IEGC Regulations	Comments of SJVN
<p>Revision of Schedules on request of regional entities:</p> <p>(c) Based on the request for revision in schedule made as per sub-clauses (a) and (b) of Clause 4 of this Regulation, any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.</p>	<p><i>Exceptional circumstances in the Hydro projects such as High silt, cloud burst, heavy rain and flash flood in the river are forced majeure condition and generator has no control over such situations and it is not possible to the generator to revise the schedule before 7th/8th time block.</i></p> <p>SJVN s two operational hydro plants are located in satluj basin , where problem of high silt due to cloud burst, heavy rain , flash flood , land slide etc occurring near the reservoir is very prominent during the monsoon season, which lead to immediate shut down of plant to safeguard the underwater components and to avoid entry of accumulation of excess silt in Head Race Tunnel. It is submitted that protocol is being maintained to measure the silt and there is proper SOPs/regulations to operate the machines during high silt condition.</p> <p>Similarly, when the silt level is on decreasing trend, the generating units may not able to generate, as the schedule is being given from 7th or 8th time block depending on which block the requisition of schedule is punched. In such condition the water is spilled, which is a national loss.</p>

Agreed Protocol between KWHPS and NJHPS

Table-I: Agreed Protocol for Coordinated Generation reduction and silt flushing at KWHPS and NJHPS

Time	Milestone	Silt level at KWHPS Intake is ≥ 3000 ppm	Silt level at KWHPS Intake is ≥ 4000 ppm	Time = 0 minutes Silt level at KWHPS Intake is ≥ 4500 ppm	15 minutes	30 minutes	45 Minutes	60 minutes	75 minutes
					15 minutes after previous action	15 minutes after previous action	15 minutes after previous action	15 minutes after previous action	
Action by KWHPS	Inform to NRLDC, NJHPS and customers. Reduce the silt sampling interval to 15 minutes.	Take operation code from NRLDC and start reducing generation from 1200 MW to 1000 MW and inform NJHPS simultaneously	Trip 2 units one after another over a period of 15 minutes (Inform NRLDC, NJHPS prior to starting the action and confirm after completion).	Monitor frequency, Hold Generation	Trip 2 units one after another over a period of 15 minutes (Inform NRLDC, NJHPS prior to starting the action and confirm after completion).	Monitor the reservoir level	Monitor the reservoir level	KWHPS would initiate reservoir flushing after confirming closing down of all units of NJHPS	
Action by NJHPS	Inform to NRLDC, and respective SLDCs.	Alert the personnel operating the station.	Take Operation code from NRLDC to initiate action for closing down units.	Trip 2 units one after another over a period of 15 minutes (Inform NRLDC, KWHPS prior to starting the action and confirm after completion)	Monitor frequency, Hold Generation	Trip 2 units one after another over a period of 15 minutes (Inform NRLDC, NJHPS prior to starting the action and confirm after completion)	Trip 2 units one after another over a period of 15 minutes (Inform NRLDC, KWHPS prior to starting the action and confirm after completion)	NJHPS would initiate reservoir flushing.	
Impact on Grid	Nil	200 MW	500 MW	500 MW	500 MW	500 MW	500 MW	500 MW	

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K W for
(SIVN Ltd.)
R K BANJAL
2x Director, NJHPS

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(JP Ventures Limited)
G. RISHI CHANDRA
DIRECTOR

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NRLDC
MANAGER(SO)

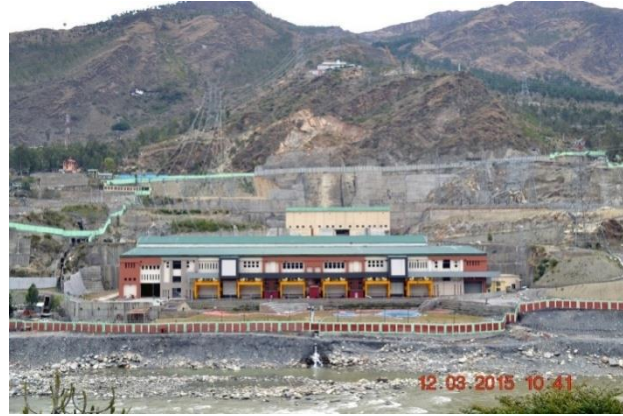
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NRPC
(AJAY TALEGONKAR)
S.E.(U)

ANNEX

Regulation 47 (4)(c):

Regulation 47(4)(C) of Draft IEGC Regulations	Comments of SJVN
<p>Revision of Schedules on request of regional entities:</p> <p>(c) Based on the request for revision in schedule made as per sub-clauses (a) and (b) of Clause 4 of this Regulation, any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.</p>	<p>In view of above difficulties, it is proposed to incorporate the following regulations in the upcoming IEGC 2022, to safeguard the generating plants in long run and also to avoid spillage of water and penalty on account of DSM charges under exceptional condition such as high silt due to heavy rain, cloud burst, Flash Floods:</p> <p>“In the event of high silt due to heavy rain, cloud burst or any other constraint, which is beyond the control of generators, necessitating reduction in generation, the RLDC shall revise the schedules.</p> <p><i>The revision in schedule shall become effective from the 7th/8th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first to seventh/eighth time blocks of such an event, the scheduled generation of the ISGS shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised accordingly”.</i></p>

THANK YOU



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