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To

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Ref: Response of stakeholders M/s Sterlite Technologies Ltd to TRAI consultation paper No. 5/2015, "Consultation Paper on Implementation model for BharatNet"

Respected Sir,

Enclosed herewith is Sterlite Technologies Ltd. response to solicitation for input on TRAI consultation paper No. 5/2015, "Consultation Paper on Implementation model for BharatNet"

Please let us know if you have any questions or clarifications

Thanking you sincerely


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Implementation Model for BharatNet

Sterlite Response to TRAI Consultation Paper No. 5/2015 dated 17.11.2015

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1. Executive Summary

BharatNet aims to:

- Connect 2,50,000 Gram Panchayats through a national optical fibre backbone that provides broadband speeds of 2 Mbps to 20 Mbps for all connected households and on demand capacity to all institutions
- Facilitate achieving 175 million broadband connections by the year 2017 and 600 million by 2020

The choice of the implementation model to achieve this goal should be guided by certain underlying principles. We believe that there are four **primary** principles that should guide the decision making on implementation strategy for BharatNet:

- 1) Provide affordable access in the last mile; drive maximum utilization/ offtake
- 2) Ensure mission mode, “honest” execution
- 3) Design for operability as a single integrated national network that is “future-proof”, with high reliability, security, resiliency
- 4) Secure timely funding for cash outlays

The project itself will aim to achieve overall commercial viability (i.e. positive project NPV) if it is possible without compromising principles 1, 2, and 3.

The three potential implementation models identified by the “Report of the Committee on NOFN” all relied upon government (Centre or State) to finance the cash outlays in a timely fashion, while following different approaches towards identifying an EPC partner. However, all models suffered from the following challenges:

- The government was required to finance the cash outlays for the timely execution of the project. USOF can finance a part of this outlay, but is insufficient to meet the 3-5 year targets envisaged for the roll-out. The government thus requires a source for funding of the project in the short term to ensure speedy and timely execution of BharatNet
- The implementation models decoupled responsibility for ensuring offtake from source of financing, thus running the risk of under-utilization of the project potential (i.e. sub-optimal monetization push due to marketing agency not having “skin in the game”)

Through exploring the BOOT model, we believe the government is trying to solve for these three challenges. While this is a good approach to explore, there are several key considerations for structuring such a model with enough safeguards to meet the guiding principles. Our recommendations are outlined below:

- 1) For BharatNet implementation to be a success, the government will need to use the public funds in the long run to provide for the necessary infrastructure as commercial viability will be limited in rural areas. Rural broadband penetration is low in most countries globally. Successful broadband rollouts in the rural areas across the world have been primarily funded by governments, and there are no at-scale examples of privately funded & commercially viable national rural broadband.
- 2) Eligibility criteria for the executing agency should be based on a combination of technical parameters that can ensure successful execution, as well as financial stability. This has been detailed below:
 - Technical parameters (such as solid core capabilities - capabilities & demonstrated experience in System Integration, capabilities & guarantee of conformance to technical

specifications/ benchmarks, effective relationships with partners/ suppliers/ joint bidders, sound track record of in time and within budget completion of similar projects)

- Commercial/ Financial parameters (such as financial stability, sound business case and related terms & conditions – e.g., plan for monetization, exclusivity period)
- 3) Vertical integration in the value chain can lead to monopolization – and could result from TSPs/ ISPs becoming Executing agencies. Relaxing this to allow wider participation could lead to significant challenges such as the need for significant regulatory intervention which could in turn drive market distortions.
 - 4) The Executing Agency should not be provided with any flexibility in changing architecture or technology. Additionally Executing Agency should have no substantial flexibility in the laying of optical fibre (e.g., route, depth) and topology (minor changes may be allowed in these). Higher degrees of freedom directly contradict with the guiding principle of operability as a single integrated national network, and will compromise the overall architecture of the network. It may also result in a lower speed of execution, sub-optimal coverage and monitoring complexity. It is integral that the network architecture – both in design/ construction methodology as well as topology – is not compromised for time or cost reasons for the project to be successful in the long run (e.g., using aerial networks instead of underground networks could result in faster completion, but will compromise the network reliability in the long run).
 - 5) Additionally, the Consultation Paper specified that the choice of the Executing Agency will be driven by minimum VGF. This is not a good model to follow because:
 - Low flexibility on the network infrastructure design and route will imply that bidders cannot differentiate substantially on the cost of roll-out. In such instances, differences in VGF requirement quoted between bidders will be primarily driven by variances in revenue projections, and thus will not be a ‘real’ difference (i.e. driven by suitability of bidder to execute).
 - In fact, a lower VGF requirement can result from higher pricing, which would go against the guiding principle of affordability, and thus be counter-productive. Past experiences with BOOT indicate that players have quoted low VGF to win the project, but once the project was completed, the government had made concessions to make the business case viable for them. Thus the low VGF criterion could be misused by private sector participants to win the project, whilst knowing that there could be concessions made in the future.
 - 6) As an alternative to minimum VGF requirement as the selection criterion, we recommend using criteria that align better with the articulated guiding principles. For instance, a combination of such as speed of roll-out, uptake commitments bidder is willing to make etc. are better aligned with BharatNet objectives vs. choice of Executing Agency based on VGF requirement quoted.
 - 7) The payment terms with the Executing Agency chosen can be drafted to incentivize the success of the project while releasing the government funding. For instance, a major portion of the capex can be funded by the government upon commissioning (from USOF), with the rest provided over the period of project roll-out and tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality). Opex funding (net of what is recovered through revenues) can also be done tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality). This will ensure that the Executing Agency will price reasonably and make the service affordable for the masses, while striving for monetization.

2. Context

The Committee on National Optical Fiber Network (NOFN) recommended a combination of three implementation models - that spread risks and built on available capacities - as the most appropriate way of working out an implementation strategy. The three models suggested were:

- 1) CPSU-led
- 2) State Government-led
- 3) Private sector-led (EPC/ Consortia)

The three potential implementation models identified by the “Report of the Committee on NOFN” all relied upon government (Centre or State) to finance the cash outlays in a timely fashion, while following different approaches towards identifying an EPC partner.

The Consultation Paper introduced a fourth possible model for the implementation – BOOT model. The table below summarizes our understanding of the key characteristics of the four implementation models under discussion for BharatNet currently.

Item		1) CPSU-led	2) State Government-led	3) Private sector-led (EPC/ Consortia)	4) BOOT Model
Summary		<ul style="list-style-type: none"> Existing PSUs (BSNL, RailTel etc.) are awarded contracts 	<ul style="list-style-type: none"> States establish SPVs with Central govt. equity. SPVs design, customize, implement, commission, manage and operate the network 	<ul style="list-style-type: none"> Consortia of manufacturers (OEM/ SI/ MSP) & EPC companies are awarded 'Build & Maintain' contracts 	<ul style="list-style-type: none"> Private sector Executing agency builds, owns & operates network for concession period
Asset Ownership		<ul style="list-style-type: none"> Central govt. 	<ul style="list-style-type: none"> SPV 	<ul style="list-style-type: none"> Central govt. 	<ul style="list-style-type: none"> Executing agency during concession period Govt. (centre/ state/ not mentioned) post concession period
Financing		<ul style="list-style-type: none"> Central govt. 	<ul style="list-style-type: none"> Central govt. for capex Central govt. funds viability gap in case of loss to SPV If profit making, SPV can retain the profit 	<ul style="list-style-type: none"> Not mentioned 	<ul style="list-style-type: none"> Executing agency VGF (who provides not mentioned)
Commercial Model		<ul style="list-style-type: none"> Competitive bidding for price discovery Incentives/ disincentives (in-built into projects of CPSU) linked to timelines 	<ul style="list-style-type: none"> Same as Model (1) 	<ul style="list-style-type: none"> Tendering for GPs in single or group of state Capex linked to milestones 	<ul style="list-style-type: none"> Not mentioned
Role of Government		<ul style="list-style-type: none"> Ensuring “honest” execution (BBNL) Financing (Central govt.) 	<ul style="list-style-type: none"> Execution (SPV) Financing (Central govt.) Ensure “honest” execution (BBNL) 	<ul style="list-style-type: none"> Ensure “honest” execution (BBNL) 	<ul style="list-style-type: none"> Viability gap funding Ensure “honest” execution (BBNL)
Private sector	Role	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Can be awarded specific contracts by the SPV 	<ul style="list-style-type: none"> 'Build & Maintain' Manage interdependencies 	<ul style="list-style-type: none"> Build, own & operate during concession period
	Selection Criterion	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Not mentioned 	<ul style="list-style-type: none"> Min. annual equity payments linked to SLA 	<ul style="list-style-type: none"> Min. VGF
	Incentives for participation	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Revenue sharing if bandwidth utilization surpasses threshold 	<ul style="list-style-type: none"> Viability gap funding Others not mentioned

3. Our understanding of the goals and guiding principles of BharatNet

Stated Goals of BharatNet:

1. Connect 2,50,000 Gram Panchayats through a national optical fibre backbone that provides broadband speeds of 2 Mbps to 20 Mbps for all connected households and on demand capacity to all institutions
2. Facilitate achieving 175 million broadband connections by the year 2017 and 600 million by 2020

Our understanding of the guiding principles:

The choice of the implementation model to achieve this goal should be guided by certain underlying principles. We believe that there are four **primary** principles that should guide the decision making on implementation strategy for BharatNet:

- 1) Provide affordable access in the last mile; drive maximum utilization/ offtake
- 2) Ensure mission mode, “honest” execution
- 3) Design for operability as a single integrated national network that is “future-proof”, with high reliability, security, resiliency
- 4) Secure timely funding for cash outlays

This is detailed in the graphic below:

Guiding Principles to achieve the Goals of BharatNet

- 1 Provide affordable access in the last mile; drive maximum utilization/ offtake**
 - Promote affordable access in the last mile
 - Promote effective competition in the downstream markets
 - Maximize utilization/ off-take in the last mile
- 2 Ensure mission mode, “honest” execution**
 - Ensure fast project completion/ high speed of execution (mission mode)
 - Ensure “honest” execution (transparency and accountability at the *local* level)
- 3 Design for operability as a single integrated national network that is “future-proof”, with high reliability, security, resiliency**
 - Ensure high reliability, security, resiliency and scalability of the network rolled out
 - Design for operability as a single integrated national network (harmonized technical architecture and interface protocols of multiple networks)
 - Create a “Future-proof” layout with technology modularity for a long project life cycle
- 4 Secure timely funding for cash outlays**
 - Secure timely funding for cash outlays
 - Minimize additional investment required to connect LSAs with the identified standards
 - Maximize private sector participation/ investment
 - Strive for commercial viability of the project in the long term

There are implicit choices that drive the prioritization of these guiding principles when there are trade-offs required between principles that lead to contradictory outcomes – e.g., speed of execution vs. additional

investment required. We believe that speed of execution and creation of high quality network infrastructure is of paramount importance for the project to achieve the vision of Digital India. Thus the project itself should aim to achieve overall commercial viability (i.e. positive project NPV) if it is possible without compromising principles 1, 2, and 3.

4. Comments on choice of implementation model

Questions raised in the Consultation paper answered in this section:

Qn. 1) The “Report of the Committee on NOFN” has recommended three models and risks/advantages associated with these models. In your opinion what are the other challenges with these models?

Discussion:

The three potential implementation models identified by the “Report of the Committee on NOFN” (CPSU-led, State Government-led and Private sector-led) all relied upon government (Centre or State) to finance the cash outlays in a timely fashion, while following different approaches towards identifying an EPC partner. However, all models suffered from the following challenges:

- The government was required to finance the cash outlays for the timely execution of the project. USOF can finance a part of this outlay, but is insufficient to meet the 3-5 year targets envisaged for the roll-out. The government thus requires a source for funding of the project in the short term to ensure speedy and timely execution of BharatNet
- The implementation models decoupled responsibility for ensuring offtake from source of financing, thus running the risk of under-utilization of the project potential (i.e. sub-optimal monetization push due to marketing agency not having “skin in the game”)

In addition to these three challenges that are common for all the three models, the individual models have the following risks as well:

- CPSU led model - There could be capability gaps and possibility of failures of accountability mechanisms potentially delaying execution, especially in CPSU-led model
- State government led model - Risks related to ensuring national uniformity for effective central control and monitoring and adherence to technical standards

Through exploring the BOOT model, we believe the government is trying to solve for these challenges.

Qn. 2) Do you think that these three models along with implementation strategy as indicated in the report would be able to deliver the project within the costs and time-line as envisaged in the report? If not, please elucidate.

Discussion:

Yes. In all the three models, the government was required to finance the cash outlays for the timely execution of the project. USOF can finance a part of this outlay, but is insufficient to meet the 3-5 year targets envisaged for the roll-out. Over the course of the project rollout, the USOF fund will have additional inflow that can fund part of the remainder. Additional funds can be allocated by the govt. to ensure on-time financing and completion of roll-out in these models.

On account of lower private sector participation in the CPSU-led model, the cost efficiency in the project execution could be lower in that model.

Qn. 3) Do you think that alternate implementation strategy of BOOT model as discussed in the paper will be more suitable (in terms of cost, execution and quality of construction) for completing the project in time? If yes, please justify.

Qn. 4) What are the advantages and challenges associated with the BOOT model?

Discussion:

From a cost perspective, BOOT will involve cash outlays from the private sector and the expectation is that this will reduce the burden on public funds. The Executing agency would focus on the quality of construction since the uptake from customers (and hence revenue realization) would depend on the quality of the infrastructure built. Timely execution is essential for the Executing agency to ensure early rolling out of services and realization of revenues; and project delays could lead to cost escalation. From an implementation perspective, BOOT projects bring more accountability and capabilities/ resources. A good example is the Bangalore airport project - the project was completed within the stipulated period of 33 months and the infrastructure delivered was of high quality.

While BOOT is thus a good approach to explore, there are several key considerations for structuring such a model with enough safeguards to meet the guiding principles. For instance, the BOOT model is not suitable for smaller private players, since it depends on raising of necessary capital and on revenue generation potential during the operation phase. Additionally, BOOT model works very well in areas with considerable monetization potential (e.g., urban areas with high penetration potential, etc.). However, in remote and/or rural areas, there could be lack of interest by private firms due to risks associated with monetization of the network. Additional challenges could arise when striving to achieve social goals in tandem with commercialization.

Analyzing past projects in India implemented based on the BOOT model would help in understanding the challenges that could be faced in such large scale projects. BOOT model in India has been used mostly in infrastructure projects such as highways, railways, bridges and airports. India's experience with the BOOT model has seen mixed success. While there have been success stories like the Bangalore airport, several projects have faced significant challenges. For instance, The Mumbai Metro project brings out two challenges that could arise while implementing the BOOT model – issue of affordability and inadequacy of minimum VGF as the appropriate criteria for selecting the executive agency. Additionally, past projects have also faced challenges such as poor quality completion, errors in demand forecasting, lack of effective monitoring mechanisms resulting in the executing agency adopting illegal measures etc. On account of the risk of monetization that the executing agency needs to take upon itself in BOOT model, participation is also normally low compared to EPC model. These challenges are summarized in the table below:

Key Issues Identified in BOOT Examples from India

■ Successful BOOT example
■ Unsuccessful BOOT example

Issue	Details	Delhi Airport Metro	Bangalore Airport	Mumbai Metro	NICE	Coimbatore bypass cum bridge
Project delays	Executing agency inefficiencies/ illegal activities	✓			✓	
	Factors extrinsic to the builder (delays in land acquisition, clearance)	✓	✓	✓	✓	
Poor quality of infrastructure built	Lack of stringent monitoring mechanisms	✓		✓		
Profit realization for concessionaire suffered	Error in demand forecast	✓				
	Did not assess consumer's willingness to pay					✓
	Cost escalation on account of project delays	✓		✓	✓	
Minimum VGF criteria was a failure	Concessionaire quoted a low VGF but later demanded hike in user fees			✓		
	Concessionaire quoted a low VGF but later terminated agreement as losses mounted	✓				
Illegal measures adopted by the concessionaire	Lack of stringent monitoring mechanisms				✓	
Affordability of service to consumer compromised	Concessionaire demanded high user fees thus increasing burden on consumers			✓		✓

Such instances from the past highlight the need to carefully design the BOOT model for BharatNet to ensure that such failures do not repeat and the project successfully achieves its intended purposes.

5. Recommendations for ensuring successful execution of BOOT model

Questions raised in the Consultation paper answered in this section:

Qn. 5) What should be the eligibility criteria for the executing agency so that conflict of interest can be avoided?

Qn.6) Should there be a cap on number of States/ licensed service area to be bid by the executing agency?

Qn.7) What measures are required to be taken to avoid monopolistic behaviour of executing agency?

Q.15) What measures are required so that broadband services remain affordable to the public at large?

Discussion:

Eligibility criteria for the executing agency should be based on a combination of technical parameters that can ensure successful execution as well as financial stability. This has been detailed below:

- Technical parameters
 - Solid core capabilities - capabilities & demonstrated experience in System Integration
 - Effective relationships with partners/ suppliers/ joint bidders
 - Sound track record of in time and within budget completion of similar projects
 - Guarantee of conformance to technical specifications/ benchmarks (as set by BBNL)
- Commercial/ Financial parameters

- Financial stability of the executing agency in order to ensure faster and effective project execution
- Sound business case and related terms and conditions (e.g., plan for monetization, exclusivity period etc.)

The Central govt. must ensure that there is consistency in the criteria applied for selection of Executing agency across all states/ LSAs. This can be achieved either by centrally mandating a common set of eligibility criteria for bidders, or by centrally pre-qualifying eligible bidders.

There are two options for avoiding monopolization – that drive choices around bidder eligibility & regulatory intervention:

- 1) **Restricting bidder eligibility + Competitive retail markets:** In this model, bidder eligibility is restricted to avoid monopolization via vertical integration in the value chain. In such a model, there will be some regulation needed to facilitate market forces:
 - Open and competitive bidding for the last mile
 - Retail broadband pricing left to market forces
 - Wholesale pricing partially regulated (price ceiling and floor mandated)

- 2) **No restrictions to bidder eligibility + Significant Regulatory intervention:** In this model, bidder eligibility is unrestricted. Vertical integration in the value chain allowed (i.e. TSPs and ISPs can be Executing agencies). The govt. will impose significant regulatory intervention in one of the following forms: Retail pricing regulation and/ or leaving the retail pricing to market forces, but regulating wholesale pricing, mandating substantial dark fibre, restricting number of LSAs in which the agency will bid, setting up a strong monitoring mechanism to ensure armslength pricing and avoidance of anti-competitive practices

Between these two alternatives, the former model could be clearly more desirable due to a few different factors:

- It is simple to design and monitor
- It is market-driven - minimalist approach to regulation will help avoid market distortions.

On the other hand, the latter model of unrestricted bidder eligibility will:

- Require significant regulatory intervention - which could drive market distortions
- Monitoring infrastructure and resources need to be put in place to ensure smooth functioning
- Additionally, global examples of telecom players with significant market power indicate that regulation cannot substitute for market forces/ competition, and could also result in higher pricing to the end user

Qn.8) What terms and conditions should be imposed on the executing agency so that it provides bandwidth/fibre in fair, transparent and non-discriminatory manner?

Bidder eligibility should be restricted to avoid monopolization via vertical integration in the value chain. There could be some regulation needed to facilitate market forces:

- Open and competitive bidding for the last mile
- Retail broadband pricing left to market forces

- Wholesale pricing partially regulated (price ceiling and floor mandated)

Qn.9) What flexibility should be given to the agency in terms of selection of route of laying optical fibre, construction, topology and deployment of technology?

Discussion:

One of the guiding principles of BharatNet is to “*Design for operability as a single integrated national network that is “future-proof”, with high reliability, security, resiliency*”.

This guiding principle directly implies that the Executing Agency should not be provided with any flexibility in changing architecture or technology. This is necessary on two accounts. Firstly, to allow consolidation of network so that it acts as a supporting network layer for multiple uses eliminating need for overlapping networks. Secondly, to create non-discriminatory access for service provisioning and permit existing and new service providers to connect via multiple last mile solutions.

Additionally, the Executing Agency should have no substantial flexibility in the laying of optical fiber (e.g., route, depth) and topology. Allowing major changes could give too much discretion to the Executing agency and make “honest” execution difficult to achieve. Minor changes may however be allowed so as to account for ground-level realities.

Higher degrees of freedom directly contradict with the guiding principle of operability as a single integrated national network, and will compromise the overall architecture of the network (design for operability as a single integrated national network; high reliability, security, resiliency and scalability of the network rolled out). It may also result in a lower speed of execution, sub-optimal coverage and monitoring complexity.

BharatNet is envisaged as a long term project. It is integral that the network architecture – both in design/construction methodology as well as topology – is not compromised for time or cost reasons for the project to be successful in the long run (e.g., using aerial networks instead of underground networks could result in faster completion, but will compromise the network reliability in the long run).

Qn. 10) What should be the methodology of funding the project? In case of VGF, what should be the method to determine the maximum value of VGF for each State/ service area and what should be the terms and conditions for making payments?

Discussion:

For BharatNet implementation to be a success, the government will need to use the public funds in the long run to provide for the necessary infrastructure as commercial viability is limited in rural areas.

- *Rural broadband penetration is low in most countries globally. Successful broadband rollouts in the rural areas across the world have been primarily funded by governments, and there are no at-scale examples of privately funded & commercially viable national rural broad band. Examples include rural broadband deployments in New Zealand, Lithuania, Albania, Slovenia and France.*
- *In New Zealand, the government contracted four local fiber companies (LFCs) as private partners to build the network under the Ultra Fast Broadband (UFB) initiative. Each was granted a geographic area to operate on a wholesale-only basis, offering bitstream access to retail service providers (RSPs). Government invests upfront in the project in the form of equity and debt securities; the LFCs have to buy back the securities (return the govt. funds) at a future date from the revenue realized from rollout of services. The equity cum debt model ensures sharing of risk*

- between the govt. and the private player, with the govt. bearing higher risk. Deployment started in 2011 and by June 2014 had passed 517,000 households, or 39 percent of targeted households.*
- *In France, the original proposals by the French government in December 2009 to provide limited public funding for superfast broadband deployment failed, because operators deemed the proposed approach to be uneconomic. In February 2013, a new national broadband plan was announced, to involve joint investment by local and central government and network operators. The proposed joint investment totaled around EUR20 billion.*
 - *France was divided into two deployment zones (a) Commercial zones with higher revenue potential, covering urban areas and (b) Public Initiatives Networks (PINs) covering most of the rural areas, as well as urban areas where no private sector player expressed an intention to invest*
 - *Commercial zones cover 57% of the population in France. In these areas, the government will make agreements with private operators for the deployment of FTTH networks by 2020, whereby the state can specify priority areas but does not provide any direct funding.*
 - *PINs will be deployed by public authorities. The public networks resulting from these investments will be open to all retail operators.*

Thus it is likely that the Executing Agency's operations under a BOOT model in many areas is not financially lucrative and the government will have to provide Viability Gap Funding (VGF) in most areas to ensure private sector participation. The Consultation Paper specified that the choice of the Executing Agency will be driven by minimum VGF in instances where a BOOT model is chosen.

However this is not a good model to follow because:

- Low flexibility on the network infrastructure design and route will imply that bidders cannot differentiate substantially on the cost of roll-out. There would not be much differentiation on the basis of ROI too since bidders are likely to have similar ROI expectations or government is likely to negotiate with bidders to set "fair return" expectations. In such instances, differences in VGF requirement quoted between bidders will be primarily driven by variances in revenue projections, and thus will not be a 'real' difference (i.e. driven by suitability of bidder to execute).
- In fact, a lower VGF requirement can result from higher end-user pricing, which would go against the guiding principle of affordability, and thus be counter-productive. Past experiences with BOOT indicate that players have quoted low VGF to win the project, but once the project was completed, the government had made concessions to make the business case viable for them. Thus the low VGF criterion could be misused by private sector participants to win the project, whilst knowing that there could be concessions made in the future.

As an alternative to minimum VGF requirement as the selection criterion, we recommend using criteria that align better with the articulated guiding principles. For instance, a combination of such as speed of roll-out, uptake commitments bidder is willing to make etc. are better aligned with BharatNet objectives vs. choice of Executing Agency based on VGF requirement quoted.

The payment terms with the Executing Agency chosen can be drafted to incentivize the success and timely completion of the project while releasing the government funding.

- For instance, a major portion of the capex can be funded by the government upon commissioning (from USOF), with the rest provided over the period of project roll-out and tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality).
- Opex funding (net of what is recovered through revenues) can also be done tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality). Operational profits (if any achieved) can be retained by the Executing Agency. This will ensure that the Executing Agency will price reasonably and make the service affordable for the masses, while striving for monetization.

Qn.11) What kind of fiscal incentive and disincentive be imposed on the agency for completing the project in time/early and delaying the project?

Discussion:

The payment terms with the Executing Agency chosen can be drafted to incentivize the success and timely completion of the project while releasing the government funding.

- For instance, a major portion of the capex can be funded by the government upon commissioning (from USOF), with the rest provided over the period of project roll-out and tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality). The executing agency can be rewarded for early completion via earlier payment of a greater portion of the agency's capex outlay
- Opex funding (net of what is recovered through revenues) can also be done tied to specific project goals/ milestones (e.g., extent of uptake, availability, quality). Operational profits (if any achieved) can be retained by the Executing Agency. This will ensure that the Executing Agency will price reasonably and make the service affordable for the masses, while striving for monetization

Qn.13) Do you think that some measures are to be put in place in case the executing agency earns windfall profits? How should windfall profits be defined?

Discussion:

There is a significant amount of risk that the Executive agency takes because in future, the estimated VGF might actually turn out to be insufficient for the viability of the project. Hence the Executing Agency should be allowed to retain the upside in the event of an unforeseen offtake of the project (i.e. 'windfall' profit) within the concession period as an incentive without which private participation could suffer in the BOOT model. This will also ensure that the Executing Agency will price reasonably and make the service affordable for the masses, while striving for monetization.

Q.17) The success of BOOT Model depends on participation of private entities which will encourage competition. What measures should be adopted to ensure large scale participation by them?

Discussion:

Large scale participation from private sector can be incentivized by sharing of risk by the government (by funding a major portion of the capex upfront, and providing viability gap funding), and by allowing the Executing Agency allowed to retain the upside in the event of an unforeseen offtake of the project (i.e. 'windfall' profit) within the concession period as an added incentive.

Additionally, feedback from the lending community (basis experience in funding infrastructure projects with a VGF) indicates that the private sector player's ability to raise debt will depend on assurance of the timely

availability of the promised VGF from the government. This indicates that it will be critical to ensure there is transparency in the source of the funds for the public sector investment prior to the bidding process to ensure sufficient private sector participation. The Central government should earmark clear, dedicated funds for BharatNet, and could also invite State governments to play a role in contributing to the fund.

6. Additional comments

Questions raised in the Consultation paper answered in this section:

Qn. 18) Please give your comments on any other related matter not covered above

Discussion:

In addition to the areas in which the Consultation Paper invites comments, the following areas need to be brought under discussion:

- Rights and restrictions of the Executing Agency post commissioning, including:
 - Sources of revenue available to the Executing Agency
 - Any restrictions on monetization model
- Details of how there will be effective monitoring of the BOOT model to ensure “honest” execution at a local level