

Stakeholder Comments on Gas-Electric System Interface Study Draft Statement of Work Dated 6/6/13			
	Comments Submitted by: (Note 1)	Comment Synopsis - See Full Version of Comments Posted at eipconline.com	Resolution in the Final Statement of Work
1	Donald Santa - INGAA	There doesn't appear to be any information on incorporating additions to pipeline capacity over the five and ten year horizons. Certainly, there are announced projects and some consultants can model likely additions going forward based on the anticipated basis differentials. On a related note, the consultant also should look at existing pipeline capacity that may become available within the study period due to the expiration of contracts and the possibility that existing pipeline shippers do not renew at the same level. Given the shifts in flows of gas that may occur due to the changing sources, it would not be surprising if capacity being utilized today becomes available at a later date.	While the EIPC Natural Gas-Electric System Interface Study SOW Section 5 discusses at a high level, both pipeline and LDC expansion, it does not specifically call for newly proposed pipeline projects, open seasons, or projects that may be built to squash basis differentials to be considered in the analyses. The SOW has been modified (see Sections 5.2.5, 6.7.1, 6.9 and 7.1) to explain that the purpose of the study is to consider the physical system as it exists today and as represented by best known plans for expansion during the 5 year and 10 year period. Additional analyses around hypothetical new pipeline capacity expansion, changes in contracts, etc. could be considered as sensitivities.
2	Donald Santa - INGAA	The scope of work mentioned looking at storage and processing capacity within the study area. While there will be a lot of gas supply originating within the study area, there also will be a lot of gas supply originating outside the study area that could be delivered by pipelines that originate outside the study area. It begs the question whether it's worth looking at processing capacity unless one looks at the capacity also is tied in with pipelines that supply the study area but originate outside it. On the flip side of the question, why is it relevant to look at processing capacity at all if the operating assumption is that there will be adequate gas supply to fill the available pipelines up to their capacity. To some degree, these questions about infrastructure from outside the study area apply to gas storage as well.	The SOW does include a reference to gas infrastructure that is "outside of the Study region" which needs to be modeled if it feeds into the Study Region (SOW Section 1.4). In addition, the SOW has been modified to explain that the purpose of the study is to consider the physical system as it exists today and as represented by best known plans for expansion during the 5 year and 10 year period. The study is not a gas supply study and therefore the availability of gas, processing plant capability, and other supply issues are not addressed. Section 2.4 has been modified to focus on infrastructure relevant to the analyses.
3	Bruce W. Mc Kinnon	One assumption is that gas pipelines entering the study area from non-study areas would be assumed to be flowing at "full" capability as they entered the study area. In the NE, we have seen this assumption be problematical in some instances, particularly where the gas pipelines have significant intervening loads (both LDC and generation) between the study border and a point further away from the border in the non-included regions where there is essentially a point of liquidity on the pipeline. The presentation also made reference making an assumption of adequate resources to supply each pipeline under study "at a point of liquidity". This latter assumption methodology should be applied to "border" situations with the recognition of intervening loadings between such "point of liquidity" and the border into the area under study.	The study targets analyses of the physical pipeline system rather than gas supply. The pipeline models the consultant uses are expected to analyze the entire pipeline and therefore be able to determine if the pipeline has "full capacity" available at any point along its length. See addition to Sections 6.9 and 7.1.

4	NYSERDA - Erin Hogan	Suggest adding a requirement that the consultant, within 2-weeks of execution of the contract, will submit a work plan detailing data to be collected; roles and responsibilities of the consultant, subconsultants, and PPAs, and detailed study approach/methods and schedule. Some of this information will be included in the proposal, but this project requires a lot of data, underlying assumptions, and coordination. Making sure the contractor has thought through all the details may minimize delaying the project or changing the scope. Alternatively, adding a statement somewhere early in the SOW that the contractor proposal shall include enough detail of their proposed study approach and analytical methods including preliminary data sources to demonstrate the ability to complete the project within budget and the specified schedule.	The PPAs agree with the comment. The issue raised is something to be addressed in the RFP rather than in a change to the SOW. So, the RFP will be modified to include the requirement to provide a work plan and all bidders will need to provide this information as part of their bid response.
5	NYSERDA - Erin Hogan	On the electric side, we default to PPA system plans that will capture changes in transmission and generation mix for the five and 10-year planning horizon. The interstate natural gas pipelines doesn't have anything comparable but LDCs probably do. There are numerous pipelines/upgrades proposed, but not all will be built. Who and how will it be decided on what pipelines will be built? This will be one of the most critical assumptions for the study and should be thought out carefully. Section 5.2 calls for the baseline system, but within the planning horizon there may be new pipelines. Some expansion should be considered, otherwise the results would be excessively conservative. This issue was not explicitly called out in the SOW. This type of information could be flushed out in a work plan or the SOW could be expanded requesting the consultant submits this type of information in the proposal.	The PPAs agree that the study should incorporate the currently known and best forecasts for expansion of natural gas sector infrastructure. Section 6.7.1 of the SOW has been modified to emphasize this issue.
6	NYSERDA - Erin Hogan	How will Quebec be modeled in the study? Electrically it's easy to characterize because of the DC ties, but it's not that simple on the gas side. Empire and Iroquois have plans to become bi-directional, if they are not already. Empire will help Ontario and Iroquois will help Quebec and may complicate the analysis for upstate flows and Long Island, particularly in the winter since Canada is a winter peaking system. New England connections may be impacted as well. Again, a work plan should clarify these types of issues.	The definition of the Study Region addresses this issue. The pipelines in and out of Quebec that connect to Ontario, New York, and New England will be included in the study even though Quebec is not one of the PPAs.
7	NYSERDA - Erin Hogan	Suggest that under Section 5.2 that the contractor should specify the direction its gas flows. Historically, gas pipelines were unidirectional, but some are becoming bi-directional (i.e., flowing in two directions simultaneously or reversing its flow). This information will be important to understand in the future.	The PPAs agree that changes to flow patterns and direction are important and should be captured. Section 6.9.1 addresses this point. However, this is a physical study based on the current system and known additions and changes. Flow patterns resulting from hypothetical additions could be considered as a sensitivity. To the extent that bi-directional flows or reverse flows are occurring, they will be modeled in the analyses.

8	Diane Barney - NYS DPS	Section 5.2.3.2 - How will units with varying gas transportation contracts be identified? For example, a unit may have a contract for firm transportation on the LDC gas system with interruptible, or secondary pipeline transportation. Gas transportation should only be considered firm if the generator has firm pipeline capacity to an agreed upon liquid trading point.	The primary source of electric generating unit information will be data provided by the PPAs and from publically available data bases. Section 9.3 has been modified to clarify this point and more clearly describe the consultant's requirements.
9	Diane Barney - NYS DPS	Section 6.2 - The only useful items in this list are peak hour and 24 hour daily consumption. Pipelines and local distribution companies plan for peak hour and generators are generally limited to 1/20th of their daily gas take in any given hour. The consultant should not be given a choice, as this implies, but must do the first two in this list for it to be useful	The PPAs agree that the results for hourly and peak demand are most the valuable, but would still like to have the other information to show a broader range of gas usage information. The additional information should be easily available from the analysis. Section 6.2 has been modified to clarify this issue.
10	Diane Barney - NYS DPS	Section 6.3.2 - The New York State Energy Plan should be included as something the consultant should be reviewed, or state energy plans in general.	The PPAs agree that any applicable and appropriate state information should be provided by the PPAs to the consultant for use in the study. The study will incorporate that information into the baseline gas demand. Section 6.3.6 has been added to address this issue.
11	Diane Barney - NYS DPS	Section 6.4 - Extreme should clearly defined to be useful. In New York we define extreme weather as at least 10% colder than the 30 year average, but one of our LDCs uses the winter of 1933-34 as their design winter. Some LDCs define normal as the 10 year average of heating degree days. Currently the 10 year average is approximately 3 or 4% warmer than the 30 year average.	The PPAs agree that adding clarity to the definition of extreme weather would be beneficial. For the natural gas system, the consultant will use the gas design day for extreme weather conditions. For the electric system, the electric conditions coincident with a gas design day will be used. Section 6.4 has been modified to further explain the desired analyses under extreme weather situations.
12	Diane Barney - NYS DPS	Section 6.5 - It is unclear how useful a low gas demand side analysis is for a study that has the intention of identify gas transportation constraints. It might be more useful to add a fuel shortage analysis rather than a low gas demand side analysis.	Note that the low gas case is optional. The PPAs agree that the value may be limited and plan to discuss this with stakeholders along with other sensitivities to determine which would be the best to study.
13	Diane Barney - NYS DPS	Section 6.7 - On what basis will the forecasts be made (LDC specific, PPA area, capacity zone)?	The PPAs are expecting the the consultant to develop this information and it will be part of their deliverables. The PPAs look forward to working with stakeholders on where such data might be available.
14	Diane Barney - NYS DPS	Section 6.7.1 - The consultant should capture what the State natural gas expansion initiatives will do to RCI natural gas demand.	Documented policies will be provided by the PPAs. See also the answer to comment #10.
15	Diane Barney - NYS DPS	Section 6.7.4 - In addition, the consultant should discuss the relationship between curtailment priorities on the pipeline and LDC systems and the availability of natural gas for generators, who will be some of the first gas customers curtailed given any kind of shortage.	Section 5.2.2 addresses the issue in part and Section 5.2.2.4 has been added to capture curtailment priorities.

16	Diane Barney - NYS DPS	Section 8.2.1 - Also included should be a list of how those delivery methods could be disrupted (harbor freeze offs, limits on truck driver hours, Jones Act requirements, etc.)	The PPAs considered this topic but decided not to take the analysis deeper into the liquids infrastructure and how that industry works. The analysis will address the advantages and disadvantages of dual fuel capability, but will not get into alternate fuel contingencies.
17	Diane Barney - NYS DPS	Section 8.2.3 - There should also be a discussion of how price sensitivities affect a generators choice of fuel. For example, many of the dual fuel plants have kerosene/jet fuel as their back up fuel, which is even more costly and hard to get than No. 2 oil, and will cause them to have a disincentive to burn their alternate fuel.	The study will include the cost of backup fuel supply in the analysis and the price difference will be implicit in the analysis based on that fuel. The analysis of changing to dual fuel will be based on fuel costs, environmental respitctions, etc. that provide the best alternative.
18	Ellen Vancko - Maryland Public Service Commission	The contingency section of the study should be made more specific by identifying factors that could disrupt or render undesirable a substantially increased reliance on natural gas as a generation fuel in the Eastern Interconnection. For example, the following factors could be considered as matters to be examined by the consultants as a part of the contingency analysis: (i) uncertainty in the magnitude of shale natural gas supply associated with the fracking production technique; (ii) the possible growth in export of LNG to satisfy the needs of US Alliance and Trade Partners and its possible effect upon natural gas prices that could adversely affect the comparative economics of natural gas fired generation; (iii) the possible expansion of natural gas use for transportation fuel or for other uses if climate change concerns increase following release of the next UN Climate Change studies in the Fall of 2014; and (iv) other potential scenarios. Presumably, such specifications are intended but will be developed cooperatively with the consultants hired to perform the study.	The PPAs believe that the analysis of gas supply is beyond the scope of this study which is focused on the physical capability of the existing and planned gas and electric systems.
19	Ellen Vancko - Maryland Public Service Commission	We support studying a ten-year natural gas supply and infrastructure adequacy scenario as well as the prioritized five-year scenario. While useful, a five-year scenario will fail to identify and therefore evaluate the full accumulation of effects from the expected large expansion in the use of natural gas as a generation fuel. (We understand from the SOW that inclusion of a 10-year scenario is desired if adequate funding is available.)	While this is not a gas suipply study, the adequacy of the gas system is included in Target 2 for the 5 year and 10 year timeframes. See Section 6.1. The 10 year contingency study is optional, but the baseline adequacy of the system in the 10 year case is part of the study requirements.
20	Ellen Vancko - Maryland Public Service Commission	We understand that the active participation of the natural gas industry in final SOW development and project management is intended. As this study is principally focused upon the adequacy and methods for the natural gas and electric systems to expand their existing integrated working relationship, natural gas system expertise will be important to successfully achieve the study objectives. In addition to adding natural gas industry membership to the SSC, EIPC may wish to consider a more direct role for the natural gas industry in the study leadership group itself.	The PPAs agree that adding gas exptertise to the stakeholder process is important. The SSC is currently in the process of adding gas expertise to their membership. In addtion, the PPAs are reaching out to gas industry representatives through their regional PPA stakeholder processes.

21	TO/TD Sector	A clear introduction should be added to explain the interrelationship between the Gas-Electric Study and the Phase I and Phase II electric transmission studies.	The PPAs agree that being clear about the relationship between the gas and electric systems is important, as well as the difference between this study and the earlier Phase I and Phase II analyses. A new paragraph at the beginning of the SOW titled "Background" has been added to describe these points.
22	TO/TD Sector	The Gas-Electric Study should provide a fact-based assessment to aid Regional Stakeholder Processes. Therefore, the study should avoid making policy recommendations that are best left to regional processes (e.g., changes in market rules, reliability requirements, or cost allocation). This preference should be clearly articulated in the SOW. The TO/TD sector also recommends removing all tasks from the SOW that are not relevant to providing a forward-looking assessment of the potential reliability of gas and electric infrastructure. In particular, we urge the PPAs to eliminate the evaluation of scheduling and nomination procedures included in the draft SOW.	The PPAs believe that using the results of the gas sector contingency analysis to determine possible mitigation measures, including operational, planning and policy initiatives, to improve the reliability of gas capable generation that are critical to electric system reliability and that are susceptible to these severe gas sector contingencies should be part of the study. The SOW has been changed so that it does not call for "recommendations". This will be a significant issue to hear from consultant on their findings. Everyone will be allowed to comment on the results. The PPAs are not comfortable with limiting the scope of the consultant and the options considered. See changes in Sections 7.2, 7.3, 7.4.2, and 7.5.2.
23	TO/TD Sector	The Gas-Electric Study should provide sufficient detail to permit Regional Entities to develop policy or procedural changes to address identified issues. To best aid the regional stakeholder processes, the SOW should assure that study analyses and results will be sufficiently detailed and disaggregated that regional stakeholder processes will be able to act upon them. In particular, the SOW should require the consultant to identify and recognize in its analyses the major electric and gas system constraints within each participating planning authority (PPA) and to disaggregate analyses and results according to those constraints. The study should not simply report the sum total of available gas system capacity into and out of each PPA.	The PPAs agree. This is the principle purpose of the study - to provide technical information to the regions. The SOW specifies that the analysis be reported at both the PPA and Study Region levels. Furthermore, the PPAs agree the results from the consultant should be sufficiently detailed and disaggregated that the regional stakeholder processes will be able to act on them. The new Background section addresses this point.
24	TO/TD Sector	The analysis should represent all reasonably possible future conditions. The draft SOW should be revised to make clear that the consultant should include gas (and electric) system expansions that are both already in process and additional generic upgrades that will be developed to meet this gas (and electric) firm load. In addition, the draft SOW should be clarified to allow the consultant to assume that some gas infrastructure upgrades in early stages of development may not be completed.	The study is limited to analysis of the existing and planned physical system. While it cannot study all possible futures, stakeholder can propose additional sensitivities for consideration. The consultant will address mitigation measures (see Sections 6.10, 7.4.2, and 7.5.2).

25	TO/TD Sector	The Gas-Electric Study should recognize additional options available to address gas system constraints and contingencies. The SOW should not limit the consultant to proposing only natural gas system upgrades or dual fuel capability. Rather, the study should consider all reasonable alternatives at a high-level, including electric demand response, electric transmission expansion, less reliance on a particular gas pipeline for fuel and/or greater generation fuel diversity. At the very least, the consultant should be instructed to flag circumstances where analysis of alternatives beyond gas system enhancements and expanded use of dual fuel capable generation may be appropriate.	Consideration of alternatives other than upgrading the gas system or implementing dual fuel strategies is beyond the scope of the study and are more appropriately addressed at the regional level in response to the results from this study.
26	TO/TD Sector	The analysis should evaluate the LOLE impact of gas system constraints and contingencies. This evaluation should be a probabilistic analysis by season of the gas transportation system's ability to meet peak demands under the analyzed conditions, including a calculation of the loss of load expectation (LOLE) for the bulk electric system associated with any gas supply deficiencies in each gas transportation category.	Analysis of LOLE on the electric system is beyond the scope of the study.
27	TO/TD Sector	The Gas-Electric Study should recognize that the duration of capacity shortfalls may impact which solution is the appropriate response. The draft SOW should be revised to specify that all analysis performed during the study will quantify the duration and frequency of identified constraints, including those constraints cause by contingencies, which will help regional stakeholder groups in identifying the appropriate solutions.	The duration of capacity shortfalls is implicit in the analysis except for contingency conditions. Identifying the duration of shortfalls caused by contingencies will depend on the specific contingency and it would not be possible to model all of the potential threats. However, the consultant will be asked for a commentary on this topic based on their experience. See Section 6.9. & 7.1
28	TO/TD Sector	The contingency analysis should evaluate both five and ten year horizons. The evaluation of both a five and ten year periods is necessary in order to determine which contingencies are temporary concerns, and which may be more significant concerns further into the future.	We agree and have asked for an option for the 10 year analysis. Whether a 10 year analysis can be performed will be based on the bids received and the total project budget.
29	TO/TD Sector	The study should seek to represent generation and transmission conditions consistent with those represented in the Phase II Business As Usual baseline. The Gas-Electric Study should also seek to represent generation and transmission conditions that are consistent with those represented in the Phase II baseline (Business As Usual) scenario as much as possible. For example, the Gas-Electric Study should not assume greater retirements of coal-fired generation than the Phase II baseline or more additions to transmission than presumed in the Phase II baseline.	This study has a different scope and purpose. This analysis will be based on updated PPA regional plans in order to provide information useful to the regions as noted in TO/TD comment #23 above. In addition, the SOW has been modified to add a paragraph as background that explains the relationship between the earlier Phase I and Phase II work and the Gas-Electric System Interface Study. See also the response to comment #21.

30	TO/TD Sector	The study should evaluate the increased reliance on gas-fired generation for system restoration. In addition to the language regarding mitigation of constraints in Section 6.10.1, the SOW should specify that the Gas-Electric Study will evaluate the extent to which the industry's increasing reliance on gas-fired generation for emergency system restoration may affect the existing black-start capabilities of the electric system.	System restoration falls outside the scope of the study.
31	TO/TD Sector	Periodic progress reports to stakeholders should be made. The draft SOW appears to limit opportunities for stakeholders to review and provide input to brief comment periods near the conclusion of each study stage. The TO/TD sector suggests that the consultant also hold periodic webinars solicit input from stakeholders on analytical methodologies and assumptions prior to the execution of analysis. Given the extended timeline for completing this study, the TO/TD sector believes that this level of stakeholder participation in the study can be accommodated without impacting the target completion in early 2015.	There are planned updates for the SSC as the analyses are being completed. In addition, the consultant will provide details on their approach and sources of assumptions as each Target is undertaken. The SOW Sections 10.2 and 10.3 have been clarified to require the consultant to hold a webinar at the beginning of each Target to discuss these items.
32	PP/TDU Sector	1. The Study should provide a concise overview of how the natural gas production, transport and compression, storage, and local distribution system works and what issues they present for electric generators that are fueled by natural gas. Examples of issues that should be described include gas pressure, nomination practices, coordination of electric and gas scheduling, service options (firm, secondary, interruptible), storage and handling variances from predicted fuel needs, subscribing new pipeline capacity, etc.	The PPAs believe that the basic information on the gas system will be collected as part of Target #1 - Baseline Assessment. In addition, the PPAs agree the consultant should provide a concise overview of how the natural gas system works. The description in Target #1 has been clarified to include the language that a concise summary will be provided. See Section 5.1.
33	PP/TDU Sector	2. The Study should provide a snapshot of current gas demand in the Study Region, classified in a logical fashion (perhaps by PPA or by major gas market region). The snapshot should identify the major end uses of natural gas, including the amount used as fuel for electric generation as a separate category. It would also be helpful to see a chart of the natural gas demand profile (for a year) and, on the same chart, the profile of natural gas used by electric generators.	This information will be provided as part of Target 1 and Target 2 results. The use of a chart to present the information is a good idea. The SOW will be clarified to suggest the use of charts to present this information in the report. See Sections 10.4.1 and 10.4.2.

34	PP/TDU Sector	3. The Study should make some “big picture” observations on the expected effect of the development of major shale gas fields (e.g., Marcellus and Utica). How has the introduction of these production regions affected pipeline capacity? Where are the pipelines now more constrained? Where are the pipelines now less constrained? How would one expect this to influence the siting of proposed new gas-fired electric generation and the retirement schedules of coal-fired generation? What will the emerging view that the availability of natural gas is growing and will remain low cost for the foreseeable future mean for the development of renewable energy projects and public policy concerning renewables and air quality regulations and enforcement timetables? How will this affect the ability and need to develop large multiregional transmission projects?	While this is not a gas supply study, the identification of existing pipelines, their current and future constraints, reversal of flows, etc. is all part of the study objectives. The impacts on the electric system needs (renewables and need for transmission) is more appropriately handled in the regional planning processes taking into account the results of this study. Implications for future changes to public policy is beyond the scope of the analyses.
35	PP/TDU Sector	4. The Study should identify planned and projected pipeline expansion qualitatively and, where reasonably possible, quantitatively identify the factors affecting the likelihood and schedule of these expansions over the study period.	This is an input requirement for the adequacy and contingency analyses. See Sections 2.4, 5.2, and 9.3.
36	PP/TDU Sector	5. Why is this Study for 5 or 10 years into the future rather than synchronized with the time frame evaluated in the EIPC Study? It should be the same to avoid duplication of effort (e.g., use the generation resource plans and energy production indicated in the previous EIPC work to the extent possible).	See response to TO/TD comment #29.
37	PP/TDU Sector	6. Target #4 should include consideration of the ability to obtain air permits and Emission Reduction Credits as well as operational limitations related to dual fuel.	The PPAs agree and believe this point is already captured in Section 8.2.2.
38	PP/TDU Sector	7. [Section 4.1] Why use a 100 MW threshold for units directly connected to a pipeline, but 50 MW for those connected to an LDC? The threshold should be the same for both.	The PPAs agree that the distinction is not needed and will change the limit to be 15MW for all units, whether connected to a pipeline or behind a city gate. See Section 4.1.
39	PP/TDU Sector	8. [Section 5.2] Section 5.2.3.2 requires a tabulation of the type of gas service (NTS, FT, IT, etc.). Equally important, however, is how the pipeline’s tariff and operational practices limit those services. A simple tabulation does not provide much insight. We suggest that the tabulation be combined with 5.2.2.3 to fully understand the gas supply limitation on the electric generation fleet. For example, some pipelines allow firm transportation customers to begin consuming gas without a nomination in place, other pipelines require no-notice service to do so.	While this study is not a detailed analysis of pipeline scheduling practices, the PPAs agree that collecting this information at a high level may be useful. Sections 5.2.2 and 5.2.3.2 have been modified to clarify collection of this information.
40	PP/TDU Sector	For section 5.2.2.3 we suggest the report focus on the tariff limits (non-force majeure – worst case on what pipelines can restrict), historical flexibility offered by pipelines and then a commentary on what generators in each region typically rely upon (firm balancing services or interruptible services).	While this study is not a detailed analysis of pipeline scheduling practices, the PPAs agree that collecting this information at a high level may be useful. Section 5.2.2 has been modified to clarify collection of this information.

41	PP/TDU Sector	Section 5.2.3 should include Firm Supplier (natural gas marketers) agreements for delivery of natural gas. Examining posted firm transportation agreements on the pipelines would not provide a complete picture. Some units may have a firm agreement with a natural gas marketer, who holds firm capacity, to deliver firm supplies to these plants.	The PPAs agree that including this information would be appropriate to the extent it is available. The PPAs hope that the pipeline and other gas industry participants in the study will assist the study in providing this type of information. See Section 5.2.3.
42	PP/TDU Sector	Section 5.2.5 should include both forward haul and backhaul capacity. Often there may not appear to be any capacity available when only the forward haul route is considered. There typically can be capacity available on a backhaul basis and with the increasing market area supply there will be more opportunities to move gas from the northeast to the South and Midwest.	The PPAs agree that including this information would be appropriate to the extent it is available. The PPAs hope that the pipeline and other gas industry participants in the study will assist the study in providing this type of information. See Section 5.2.5
43	PP/TDU Sector	9. [Sections 6.3, 6.4, and 6.5] Rather than duplicate previous efforts, why not use work already done in the EIPC study to establish a reference gas demand case (perhaps "Business as Usual") and a high gas demand case (perhaps the scenario containing the largest natural gas-fired generation build-out or a sensitivity run associated with that scenario). A low gas demand case is not likely to be valuable for a study that seeks to test the strength of the gas supply and transportation system. It is important that the High Demand Case (and possibly the Base Demand Case in 6.3) include hourly consumption in the analysis. This information will be difficult to obtain, but a conclusion based on daily or monthly consumption could paint a false picture. For example, if a unit runs uniformly over 24 hours there may not be any restrictions but if the same unit is dispatched in a non-uniform manner there could be restrictions from the pipeline. Perhaps it would be best to focus on the items listed above in Section 6.9 which focuses on Gas Sector Constraints.	See response to TO/TD comment #29. In addition, note that the low gas case is optional. We agree that the value may be limited and plan to discuss this with stakeholders along with other sensitivities to determine which would be the best to study.
44	PP/TDU Sector	10. [Section 6.5] In lieu of a low gas demand sensitivity case, a case should be considered that evaluates the economic and reliability impacts that increasing gas demand from sectors other than electric power generation could have on the capability of the gas delivery system. For example, if natural gas became a fuel of choice for vehicles, how would the delivery system be affected (probably most near population centers) ... or if natural gas exports increased significantly, how would one expect available pipeline capacity to change in the regions of interest? To what extent will greater gas availability affect the demand and pricing of other fuels, including electricity? How will emerging expectations about an expansion of natural gas distribution and lower relative costs compared to oil and electricity affect industrial, commercial, and residential energy choices in ways not already considered in the prior EIPC study?	Section 6.7 requires the development and support for gas sector demand forecasts for the 10 year period. Other speculation regarding future potential changes in the use of gas ("sea changes") is beyond the scope of this study.

45	PP/TDU Sector	11. [Section 6.9 or 6.10] It will be important to include the potential constraints that could develop if pipelines begin to limit operational flexibilities. Many pipelines allow generators to come on-line without a prior nomination, run non-uniformly, or carry a daily imbalance. Many pipelines offer these services on a best efforts / interruptible basis. Since these services have been readily available and historically reliable, the potential to ignore the possibility that pipelines will change how these services are offered is probably. With increased generation, changing flow directions and potential for increased revenue, the operational flexibility available on a best efforts basis may diminish.	The PPAs will be sure that the study report is clear on the point of using baseline information that reflects the existing system and known capacity expansions. The sensitivity analysis planned for the study may be able to uncover some of the information requested. See added Section 6.7.1 and changes to Sections 6.9 and 7.1.
46	PP/TDU Sector	12. The Study assumes ample supply of natural gas. It would be useful to consider how changes in the availability of supply in various key locations would impact the results.	An ample supply of natural gas is a basic premise of the study given that this is not a gas supply analysis. See also the response to comment #34.
47	PP/TDU Sector	13. [Section 8.2] It would be useful to know what is required with respect to accrediting generation fueled by natural gas in each PPA within the Study Region. For example, can a generator without a backup fuel source be counted as capacity if it purchases interruptible transport for gas?	Electricity market design issues are beyond the scope of the study. However, to the extent that the consultant will collect information on the existing rules as part of the analysis, these will be reported.
48	Joyce Turkaly - PIOGA	Target 1 - More education is needed via information sharing, best practices, etc. Of note are various operational outcomes given such items as siting (behind a city gate v. behind a Transmission pipeline); pipeline asset mix i.e., storage, balancing; and also performance swings dependent upon whether peakers versus base-load generators are called.	Education and collaboration between the electric and gas industries is one of the benefits from the study, beyond obtaining the analytical results themselves. These will be accomplished throughout the study via the interactions of the SSC, the regional stakeholder bodies, and discussions with the study consultant.
49	Joyce Turkaly - PIOGA	Target 2 - Since most natural gas projects are planned for the next five years, how does this coincide with the Electric planning for years six through ten – what methodology will be used beyond the initial five-year term? Also – when did the clock start on year one? At the beginning of the original study or now that the natural gas sector will be a consideration? (2013)? What will the major indicator be of “economic growth”? How will each PPA evaluate DR participation when calculating capacity? If the FERC should change market rules, what is in place in this study that would reflect this? How was 100 MW or greater (pipe) and 50 MW or greater (LDC) determined? What is the expectation of any gas capable gen units below these targets? Are any of these lower MW generators dual fuel?	The SOW has been modified to explain that the purpose of the study is to consider the physical system as it exists today and as represented by best known plans for expansion during the 5 year and 10 year period. The gas expansion will be based on the best available information, but will not speculate on possible projects that have not been announced. Year one of the study will be 2013. The electric system will be a 2018 and 2023 representation provided by the PPAs which includes assumptions on economic growth, demand response, etc. The study will apply existing practices and market rules rather than analyze hypothetical changes. The limit for gas-fired generation unit size has been changed to 15MW. See the response to comment #38.
50	Joyce Turkaly - PIOGA	Target 4 - Does both the five and ten year plan account for transmission system (by PPA) improvements to handle any additional Nat Gas fired generation?	Yes.

51	Joe Dalton - Distrigas of Massachusetts	It is unclear from the description of process governance and from the accompanying posted documents on "Stakeholder Process Enhancements," and the "SSC Memo," exactly how input from LNG suppliers will be facilitated by the participation of an LNG owner in the SSC. It would be helpful if the specific details of stakeholder participation for an entity such as DOMAC could be clarified in the Statement of Work document or otherwise formally stated before finalizing the SOW.	This is a comment for the SSC process and not the SOW. The PPAs encourage participation by the LNG suppliers in the SSC discussions to revise its membership to include gas expertise and interests. Your contact information has been added to the gas sector list.
52	Pradip Chattopadhyay - New Hampshire Public Utilities Commission	Section 1.5 - Since the study is mainly being run by six PPAs and the SSC is a body that has largely been represented by electric interests and members from all PPAs, there is a need to revisit the composition of the SSC not only in terms of how folks with gas expertise are involved going forward but also how geographic representation in the SSC could be potentially altered to better target the objectives of the gas-electric interface study.	This is a comment for the SSC process and not the SOW. The PPAs encourage participation by stakeholders from all parts of the interconnection in the SSC discussions to revise its membership.
53	Pradip Chattopadhyay - New Hampshire Public Utilities Commission	Section 3 - Since this initiative is being undertaken by six PPAs and there is a need to look at areas that are not geographically within the footprints of those PPAs, it may be useful to involve a consultant with gas infrastructure and economics expertise to allow those six PPAs to better consider gas facilities located outside their regions and the implications for the gas-electric interface right from the beginning even as inputs are being finalized for the baseline assessment. While the baseline assessment target is stated to be the consultant's responsibility, it is not clear to me whether gas facilities from outside the six-PPAs' regions will be vetted properly at the input level. The consultant's involvement may play an important role even in the determination of inputs, and may provide some head-start with respect to the Consultant's first deliverable (baseline assessment).	The definition of the Study Region addresses this issue. See Section 1.3. See also Section 2.3 regarding consultant expertise and 2.4 regarding the portions of the gas and electric systems under consideration.
54	Pradip Chattopadhyay - New Hampshire Public Utilities Commission	Section 6.2 - Are the cut-offs (100MW or greater and 50MW or greater) based on DOE's directions or is there some other reason for this?	See the response to comment #38.
55	Pradip Chattopadhyay - New Hampshire Public Utilities Commission	Section 6.5 - While time and pricing constraints may not permit such an analysis, I would hope that "at the discretion" of the PPAs would still accommodate opinions from stakeholders and states to the extent that there may be a strong desire to conduct this case based on results of other cases.	Yes. Note that the low gas case is optional. The PPAs agree that the value may be limited and plan to discuss this with stakeholders along with other sensitivities to determine which sensitivities would be the best to study.
56	Pradip Chattopadhyay - New Hampshire Public Utilities Commission	Section 6.8 - Will the optional cases, if taken up, will also be subjected to the analysis described in 6.8?	Possibly. See Section 6.6.

57	John Farber - Delaware Public Service Commission	<p>The current SOW includes Section 6.7 regarding the customers' end use requirements for natural gas. Would it be possible to expand this section to include the availability of gas to end use customers by PPA (although state info would be extra helpful), i.e., identify the number of end use customers that have access to both natural gas and electricity versus only access to electricity. For those customers with no access to natural gas, would it be possible to identify the infrastructure (and cost) necessary to increase the availability of natural gas to end use customers? Essentially, would the cost to make natural gas available to more customers be justified by the benefits that could be achieved by increased use of natural gas for end use thermal requirements, e.g., water heating, cooking, space heating, etc.? What would be the net effect of end use fuel switching for the electric generation as well as gas delivery sector? Information regarding natural gas availability and viability for end use customers would be essential in developing potential policies regarding the use of natural gas.</p>	<p>The suggested analyses are beyond the scope of the study. The purpose of the study is to consider the physical system as it exists today and as represented by best known plans for expansion during the 5 year and 10 year period. It is not intended as a study of end-user impacts. Section 2.4 has been modified to focus on infrastructure relevant to the analyses.</p>
58	Marjorie Garbini - PEPCO	<p>The gen size cut-off in 4.1 will exclude many black start units. I am concerned that in a system restoration/black out scenario we are overly dependent on natural gas as a black start unit fuel.</p>	<p>System restoration, as a specific analyses, falls outside the scope of the study. That said, the information that will be produced as part of the Target 2 analyses may help inform the development and review of system black start plans. See the response to comment #38 regarding the unit sizes to be considered in the study. The PPAs will consider the blackstart issue as part of that decision.</p>
59	Marjorie Garbini - PEPCO	<p>Is there some regulation that requires the generation owners and operators to release details of their gas supply contracts for this study?</p>	<p>The PPAs are not aware of a requirement for generation owners to release details of the supply contracts. Section 9.3 addresses the issue of data availability. In addition, the PPAs are hopeful that stakeholder participants in the study who may have this information will be willing to provide it.</p>
60	Lin Franks - Indianapolis Power & Light Company	<p>What percentage of future gas fired generation will be dual fuel capable and how does the EIPC and/or the study go about determining it?</p>	<p>The review of state and/or regional requirements should provide this information, and the results of the study should help inform the processes to decide whether future units should be dual fuel or not. The SOW has been modified to add this information to the list of inputs provided by the PPAs if it is available. See Section 4.4.</p>
61	David Reister	<p>While the SOW is a good first step, I would like us to create a Dynamic Dispatch model for each of the six Participating Planning Authorities. Each model would simulate supply and demand options. Given a set of prices, the model would choose the least cost options every hour of a year. environmental regulations could be represented by taxes.</p>	<p>The development of a dynamic dispatch model is beyond the scope of the study.</p>
62	David Reister	<p>New gas pipelines may take a long time to build. Need a pipeline to drill a well.</p>	<p>The PPAs agree. No change is needed in the SOW.</p>
63	David Reister	<p>20 years ago built gas generation that was not used. Review history. Avoid repeating error.</p>	<p>The PPAs agree. No change is needed in the SOW.</p>

64	EISPC Comments	Numerous	The PPAs continue to discuss the EISPC comments with them. The overall intention of the PPAs is to keep the study focused enough to provide information that may be actionable at the regional level. In addition, the PPAS will work with the EISPC and other stakeholders on selection of potential sensitivities of value and the PPAs will continue to work with EISPC to explore potential synergies between their two studies.
Note 1 - Comments received from a regulatory body or agency are assumed to represent the comments of the individual submitter and are not comments on behalf of the regulatory body or agency.			