

# ADDENDUM

## National Ambient Air Monitoring Strategy

### Responses to Comments On the National Monitoring Strategy Documents

#### Topic 1. Network Realignments

1. Reducing monitors is not appropriate in areas with population growth.  
*It is expected that as part of the Level 3 NCore sites, additional sites may in fact be warranted in areas of new population growth where no monitoring has been conducted before. However, even in these areas, within the existing core population areas, there may be opportunities to reduce monitors, especially those with long historical records and good correlation to adjacent monitors. Thus, in essence, there is a restructuring of the existing network to accommodate monitoring needs for population growth. This process is consistent with the Strategy.*
  
2. Divestments may not be possible in low population states with minimum monitoring sites. It may not be possible to realize any appreciable cost savings to support a Level 2 site.  
*We recognize that such conditions may exist, especially in some of the intermountain states. Consideration will be given to for an opt-out provision to allow an exemption from the regulatory minimum NCore site allocations provided that the state commits to meet the NCore requirements to the degree possible.*
  
3. Reducing sites in non-attainment areas is not practical.  
*One of the key objectives of the Strategy is to make more efficient use of our monitoring resources, so current and future monitoring needs can be accommodated within limited budgets. In both attainment and non-attainment areas, there are opportunities for re-evaluating existing monitors and monitoring sites. Where redundancies of information exist (e.g., the information provided by a monitor can be estimated with reasonable accuracy from data at adjacent monitors), opportunities for realigning our networks also exist. Where we can remove little-value-added sites and apply those saved resources to increase multi-pollutant sites with improved information technology flow, the public will be better served.*
  
4. In some areas, SIP commitments and Maintenance Plans require additional monitors. This seems inconsistent with the Strategy.  
*Such commitments are typically on a more localized scale (e.g., within a specific urbanized or rural area). Over the broader picture, the regulatory NCore requirements are specified on a statewide basis. Thus, while some local areas*

*may appear to have needs counter to the Strategy, there should still be enough flexibility within a state's domain to meet the needs of the Strategy. Also, within EPA, those involved in the policy aspects of planning requirements are looking at ways to foster better consistency between planning and monitoring programs.*

5. It is inappropriate to expect reduced monitoring in areas of complex terrain and emissions gradients.  
*This may or may not be the case. If existing monitors have a reasonable historical record, and there are good correlations among monitors, even in areas of complex terrain and emissions gradients, then opportunities for network realignment exist. Whether such opportunities are available is a function of the network assessment process.*
6. Reductions in monitors may jeopardize local initiatives and state/local needs.  
*To the contrary, the Strategy is intended to optimize state/local needs by allowing a greater level of local flexibility for such purposes. In essence, federal requirements for numbers of monitors will, in most cases, be reduced. In return, state/local agencies will be required to support one multi-pollutant site (or up to four multi-pollutant sites in the most heavily populated states) AND resources previously allocated to meeting the greater level of federal monitoring requirements will now be available to meet local needs and initiatives. In other words, in many states, local needs will have greater support from EPA than in the past.*
7. This is the wrong time to be changing direction in air monitoring programs in light of the new ozone and PM<sub>2.5</sub> standards.  
*One of the objectives of the Strategy is to support, to a greater extent, new standards and associated monitoring needs. For ozone, existing monitors produce 8-hr data just as readily as the 1-hr data. It would be expected that part of the NCore Level 3 site network, realignments of monitoring sites may be appropriate to meet the needs for the new 8-hr standard. For PM<sub>2.5</sub>, it is recognized that the initial rapid deployment of over 1100 monitors nationally has provided data necessary for the designation process, but now the emphasis needs to shift toward continuous PM<sub>2.5</sub> measurements at a more strategic subset of locations, thereby substantially reducing the high costs associated with filter-based monitoring. Further, the Strategy allows for readily incorporating monitoring needs for potential new standards, such as PM<sub>coarse</sub>, within a reasonable proximity of existing resources. It would not be expected, for example, that there would be another \$40 million per year allocated for PM<sub>coarse</sub>, as was the case for PM<sub>2.5</sub>. Thus, we have to have a program which can more conveniently accommodate new monitoring needs. The Strategy will allow for this.*
8. Realignment of monitors could have adverse effects on PSD/NSR programs, model validation, and designation/redesignation processes.

*If the Strategy is implemented effectively, we do not anticipate adverse effects on any of these programs. To reiterate what has been stated earlier, the Strategy is intended to identify those sites for which the monitored data provide little additional value. In other words, perhaps due to certain monitoring densities in urban areas, there are monitors which are well-correlated with adjacent monitors, so the information provided can be estimated with reasonable confidence from the adjacent monitors. It is also intended that the Level 3 sites be properly situated so as to assure that the design-value sites are fully accounted for. For those pollutants which are substantially no longer exceeded, such as lead, carbon monoxide, and sulfur dioxide, again, opportunities are available for reducing monitoring without compromising important planning/policy considerations. Regarding model validation, it is recognized that many model validation programs are based on special one-time field studies which seek to gain a temporarily dense surface network along with aircraft measurements to validate conditions aloft. Since these special studies are associated with special funding for their support, the Strategy should not have any bearing on such studies. Further, the Strategy will bring additional information which may be of benefit to model validation, namely, a greater array of precursor information at the Level 2 sites, and a more complete suite of interim pollutant formation products at Level 1 sites.*

9. Consideration should be given to not reducing SO<sub>2</sub> monitoring because of the possible 5-minute average NAAQS.

*The Strategy is intended to accommodate new standards. It would be expected that: (1) any exceedances of the 5-minute standard would be associated with a specific source or sources of SO<sub>2</sub> emissions capable of causing such conditions, and (2) that the NCore Level 3 network would include SO<sub>2</sub> monitors in areas where such exceedances may be possible. Clearly, there are many locations where SO<sub>2</sub> emissions sources are not of the degree to cause an exceedance, and hence, SO<sub>2</sub> monitoring is not needed. This presumption can be augmented by modeling to determine maximum predicted impacts and by some temporary SO<sub>2</sub> monitoring, if necessary, to verify continuing low SO<sub>2</sub> levels.*

10. The Strategy will result in less data for trend analyses.

*Given that both Level 2 and Level 3 sites will provide data for trend analyses, there should not be any substantial loss in information for trend determinations. One of the key objectives of the Level 3 sites is to assure that important information is not compromised, including sites with the higher concentrations, sufficient monitor density for proper air pollutant mapping (for ozone and PM), and linkages with historical trend sites. Thus important trend data will not be lost or compromised, though the number of sites providing essentially the same trend data could be less.*

11. Before any realignments occur, we need to identify new investments first.

*Actually, new investments are an integral part of the Strategy. These encompass several processes: (1) the establishment of Level 2 sites and the monitoring*

*requirements for each one; (2) the network assessment process which helps to determine where, for example, re-location of monitors may provide more beneficial information; and (3) new standards, such as the potential PMcoarse standard, which would require monitoring for such pollutants. These processes are intended to be ongoing, such that new monitoring needs are identified as early as possible, and network changes can be made to meet these needs.*

12. PAMS should not be discontinued.

*There is no intent to discontinue PAMS. Rather, PAMS, as well as other existing networks such as IMPROVE and CASTNET are intended to complement the NCore Level-2 and Level-3 sites to the degree feasible. With respect specifically to PAMS, it has been recognized that this program has not produced the value that was intended when the program was created. In 2000, there was a workshop devoted to making better use of the PAMS program and the data collected through it. This workshop has led to a “restructuring” of PAMS such that it becomes a more effective and meaningful monitoring and data analysis program. Within the concept of the Strategy, the PAMS program is expected to be included under the overall umbrella of NCore, with regulatory requirements for NCore PAMS sites.*

13. Reductions in PM2.5 monitors will reduce ability to protect public health.

*When the PM2.5 network was rolled out in 1999, there were some 1100 filter-based sites nationwide. At the outset of any monitoring program where there is little information available, it is important to establish a dense enough network to capture the essential information needed to planning and policy purposes, as well as for informing the public. Once the initial information is obtained – and we now have at least three or more years of information from the majority of the PM2.5 sites – the need for maintaining a dense network is reduced, while at the same time maintaining the same level of useful information. Furthermore, the Strategy focuses on improved technologies, including greater use of continuous PM2.5 monitors, which will provide a greater level of real-time information to the public. For the purpose of public air quality advisories, forecasts, and general up-to-date PM2.5 data, the move toward continuous PM2.5 monitors will greatly enhance the ability to advise the public and protect public health.*

14. The changes in the PM2.5 network should be timed to coincide with the development of the PMcoarse network.

*We agree that clearly there will be efficiencies in doing both simultaneously, but given that there is an undefined timeline for a PMcoarse standard at this time, actions to implement the Strategy should proceed independent of the PMcoarse standard setting process. Recognizing that the Strategy is intended to incorporate new monitoring needs as efficiently as possible, we believe it is most prudent to move forward with the Strategy at this time and not wait for new standards and timelines to evolve.*

15. Divestments and network realignments should be based on public input and overall need.

*With respect to public input, we agree that the public needs to be engaged, but not necessarily to the point where changes occur ONLY in response to public comments. The Strategy includes a strong public communications and outreach program, including the development of a brochure for general public consumption. State and local agencies are being encouraged to engage the public in a variety of possible public forums before any network changes occur. Experience has shown that network changes without public involvement can result in negative public perceptions, especially when removal of a monitoring site is involved. Rather, we are emphasizing that there is a need to be proactive, and discuss the purpose of monitoring sites, the rationale for their location, the rationale for projected network changes, and advantages for greater public availability of information through new monitoring and information transfer technologies. With respect to need, the Strategy places a strong emphasis on need. Previously, networks were developed, layered one on the other (e.g., an ozone network, a CO network, a PM10 network, etc.) with little regard for the considering the multi-pollutant advantages. Under the Strategy, the air monitoring networks are being considered holistically, with emphasis on the benefits of careful network planning in measuring and understanding the complex mixtures of pollutants which we breathe.*

16. The changes proposed in the Strategy may not be legal.

*The requirements for monitoring specified air pollutants are contained in 40CFR Part 58. These regulations are in the process of being revised to reflect the objectives of the Strategy. Changes to these regulations follow the same public review and comment process as other EPA regulations. Therefore, there should not be any legal impediment.*

## Topic 2. NCore

17. The NCore concept is not clearly defined.

*Without knowing what specifically is unclear, it is hard to determine specific elements which need clarifying. However, the Final Strategy Document (FSD) adds more details as compared to the Draft Strategy Document, not only with respect to NCore, but throughout the document. In general, we believe the NCore concept, the three levels of monitoring structure, and the local/flexible component have at least been expressed sufficiently to indicate what it is intended to accomplish.*

18. Why can't NCore be folded into the current monitoring program?

*Please refer to the last two sentences in the response to comment #15. We believe that the most effective way to transition to a new monitoring paradigm is through a new strategy, rather than trying to add new layers onto what is believed to be a more cumbersome process.*

19. There should be a minimum monitoring density established for AQI and mapping purposes.

*We agree that there should be sufficient monitors for being responsive to public needs for AQI reporting and spatial mapping; however, there are so many parameters which can be considered for density purposes (e.g., urban vs rural populations; large vs small spatial gradients; flat vs complex terrain; etc.) that it is not really appropriate to establish a minimum density condition. Rather, Table 3 of the Draft Summary Document gave some indication of the expected changes for the required minimum number of nationwide monitors by pollutant. For those of greatest concern, ozone and PM<sub>2.5</sub>, the minimum number of required monitors actually increases. It is expected that state and local agencies will adequately realign their networks to assure that monitors used for AQI and mapping purposes will meet or exceed the value of information currently available to the public.*

20. It is not clear how monitoring for air toxics, regional haze, and global warming would be implemented.

*For air toxic monitoring, there are two aspects for consideration. First, where appropriate, the national air toxics trends sites (NATTS) network is proposed to be included at NCore Level 2 sites. There will be more Level 2 sites than NATTS, but Level 2 sites will not have a uniformly standard configuration. There will be a minimal multi-pollutant configuration for Level 2 sites, and some Level 2 locations will have more monitoring than the specified minimum. Air toxics monitoring is one aspect that will result in a greater level of monitoring at some of the Level 2 sites. Secondly, local air toxics conditions are more of a local-level determinant, and accordingly, locally-tailored air toxics monitoring is intended to be included with the local/flexible component of the Strategy.*

*For regional haze considerations, we believe the multi-pollutant approach will enhance relevant information, especially with respect to precursor pollutants. Aside from this, there are no specific monitoring requirements targeted specifically for regional haze purposes under NCore, except that states and local agencies can opt for specialized measurements as needed under the local/flexible portion of the Strategy. Similarly, there are no specific considerations for monitoring greenhouse gases (such as CO<sub>2</sub> and methane), although it is possible that some monitoring for these compounds could be included within the Level 1 sites.*

21. NCore should include other monitoring programs such as the National Dioxin Network, PAMS, CASTNET, and IMPROVE.

*The overarching goal of the Strategy is to become more efficient in the way we monitor air quality across the nation using primarily Section 103 and 105 Grant Funds to state and local agencies. Other programs, such as CASTNET and IMPROVE have their own funding mechanisms. It is envisioned that NCore's structure will capitalize on the other existing networks for optimization and efficiency. For example, a Level 2 NCore location might be determined based on*

*using a PAMS site or a PM2.5 speciation site which can be expanded to include criteria pollutant monitoring and air toxics monitoring. Selection of a rural Level 2 site should account for existing IMPROVE and CASTNET sites such that the NCore site optimizes gap-filling situations while meeting Level 2 NCore objectives. This way, other networks are conceptually integrated into the NCore design while still maintaining their own objectives and funding. Also, please refer to the response to item #12.*

22. NCore should at least coordinate with programs that monitor for bioaccumulative pollutants.

*We agree, though decisions on NCore siting should not necessarily be dictated by bioaccumulative pollutant (e.g., mercury) needs. Where it makes sense, bioaccumulative monitoring can be done at an NCore site if the host state/local agency or tribe can accommodate such monitoring, to include logistics, funding, resource availability, and operator training.*

23. NCore should target more contaminated locations.

*To reiterate the purpose the distinct NCore levels: Level 2 sites are multipollutant sites in both urban and rural areas, with consistency as to the representativeness of these sites such that meaningful comparisons can be made among the sites. The Level 3 sites complement the Level 2 sites by assuring adequate network coverage to meet a number of important monitoring objectives, including locations where the highest levels (i.e., the most contaminated sites) either are occurring or are expected to occur. Because pollutants behave differently, locations of highest ozone may not be the same as those for particulates or air toxics. Thus representing an urban area with one Level 2 site could not necessarily achieve a “most contaminated” scenario. We want the Level 2 sites to be most “representative” of the specific urban or rural area, with the Level 3 sites targeting more individual pollutant characteristics.*

24. There should be a formal process for site selection.

*There is a process for site selection. For Level 2 sites, EPA will establish guidance for determining representative locations. State and local agencies have the greatest expertise and knowledge about conditions in an area and are in the best position to recommend a specific location. Each recommendation will be forwarded to EPA Headquarters where reviews of the candidate sites will be made. If any candidate site is determined not to be meeting the national guidelines, a state/local agency would need to consider another location. For Level 3 sites, targeted needs include monitoring in areas with the highest concentration and greatest population exposure; defining nonattainment areas and boundaries; meeting SIP needs; evaluating local background conditions; meeting spatial mapping and AQI needs; and supplementing the Level 2 sites for trend analyses. All Level 3 sites will require EPA Regional Office approval. The Level 1 sites – the most fully instrumented of the NCore sites – will typically not be under state/local agency auspices. These sites, funded separately by EPA, will*

*require EPA Headquarters approval. Taken together, these do represent a reasonable process for site selection.*

25. Supporting epidemiological studies will fail due to number of sites, species measured, and sampling frequency.  
*To the contrary, the NCore design should enhance data for epidemiological studies. Such studies typically must account for confounding parameters, and the fact that Level 2 sites will encompass multi-pollutant monitoring will provide data bases with much-needed co-located data. With the design for representative sites among urban and rural areas, comparisons among populations with differing pollutant exposures are also enhanced. Level 3 sites will augment these to help define spatial and temporal patterns within each urban area. The Strategy embraces moving more toward continuous, rather than filter-based monitors, and will enhance the temporal resolution of PM data. Regarding the number of sites, divestments are recommended where existing monitors provide little additional informational value and can be readily predicted by adjacent sites; and also for those pollutants for which no longer exceed health-based standards. The net effect of lesser monitors is minimal, but the strategic locations of NCore sites coupled with multi-pollutant intent, is a major step forward. Combined, these aspects of the Strategy should improve data bases for epidemiological purposes. The CASAC NAMS Subcommittee, as well as a number of epidemiologists, has embraced the concept.*
26. NCore does not account for spatial variability, especially in urban areas.  
*The Level 2 NCore sites will not account for spatial variability, but the Level 3 sites will. One of the objectives of the Level 3 sites will be to maintain adequate spatial coverage for the pollutants of primary concern (e.g., ozone and fine PM) for spatial mapping and AQI purposes. If a state/local agency believes that an even greater level of spatial detail is warranted, the local/flexible portion of the Strategy allows for monitoring to meet specific local area needs and objectives on a temporary or on-going basis.*
27. A “one-size-fits-all” approach is not a solution.  
*Nothing in the Strategy and NCore design advocates such an approach. While EPA maintains oversight approvals for the NCore sites, the determination of candidate sites resides with the state/local agencies and tribes. In addition, the Strategy allows for a local/flexible component to the monitoring design, whereby state/local agencies can allocate some of the available resources toward meeting monitoring needs specific to the community. This could be for addressing environmental justice concerns; local source monitoring; microscale or background monitoring; and other local needs. This flexibility is greater than currently exists and allows for a tailoring of the monitoring program. Clearly this is not a “one-size-fits-all” strategy.*
28. There may be a disconnect between the number of proposed sites and the numbers determined by the DQO process.

*We don't believe there is a "disconnect." Part of the Strategy includes a thorough review of quality assurance processes, with the intent of streamlining QA to mesh with the overall objectives of the Strategy.*

29. There may not be a need for more rural sites and, in fact, some reductions may be warranted.  
*This may be true in some instances, but not universally. It is envisioned that the rural component of the Level 2 NCore sites will encompass approximately 18 sites nationally. Some of these will focus on national background conditions; at least two sites would be targeted to measure global background conditions; some sites will focus on transport corridors; and others will focus on urban-regional pollution couples. There will be further guidance on the specifics for selecting such sites. It may very well be that some existing rural locations fit one of these rural monitoring objectives, and can become a candidate for a rural Level 2 NCore site. Such sites will also need to have a specified level of multi-pollutant monitors.*
30. States should focus on compliance monitoring and not be burdened with additional responsibilities for methods development and research.  
*There is no such burden placed on state and local agencies within the Strategy. Methods testing and research will be focused at the Level 1 sites which are not proposed to be the responsibility of state and local agencies. Rather, the Level 1 sites will be separately funded by EPA, and will likely be operated by contractors or universities. There may also be opportunities for Level 1 sites to be situated at a state/local agency monitoring site, if logistics and cooperative arrangements can be developed between the Level 1 site operator and the host agency. In such shared site arrangements, the responsibility for methods testing and research will reside with the contractor or university.*
31. Trend sites need to include more than just Level 2 sites.  
*We agree. Level 3 sites will also enrich the Level 2 site capabilities by providing a wider array of sites which can be used for trends analyses.*
32. Upper air meteorological data should be emphasized.  
*We recognize that upper air data are important in helping to characterize the conditions conducive to the accumulation, formation, and transport of pollutants. Wind profilers are included in the PAMS program, and the Strategy encourages the utilization of PAMS sites for development of Level 2 NCore sites where it is most appropriate do so. It is not the intent of the Strategy, however, to require upper air meteorological equipment at Level 2 sites, although there will be requirements for certain ground-based meteorological measurements, such as temperature, relative humidity, and wind speed/direction.*
33. Criteria pollutant monitoring should not be decreased to support more air toxics monitoring.

*There are two aspects to this. First, there is currently separate funding for air toxics trend monitoring. Realignments in criteria pollutant monitoring will not affect the air toxics monitoring program. Rather, it is envisioned that air toxics monitoring should, to the degree possible, be included as part of the multi-pollutant Level 2 NCore sites. This way, the informational value collected as part of these two programs can be maximized. The Strategy looks at other separate programs, such as PAMS, and attempts to maximize co-locations to the degree possible. In some cases, it may be possible to have PAMS, air toxics, PM-speciation, and NCore Level 2 monitoring all co-located at one location. Doing so optimizes the value of information because of the degree of multi-pollutant monitoring. Of course, not all urban locations lend themselves for such optimization, and the Strategy does not “force” this to happen.*

*Secondly, some state/local agencies may have community and environmental justice issues to address, and localized air toxics monitoring may be necessary. A local/flexible component to NCore provides state/local agencies the flexibility to accommodate such monitoring over and above the Level 2 and Level 3 requirements. As such, some of the resources accrued through network realignments can be utilized for these purposes. This process is intended to make maximum use of existing resources to address both national and local priorities.*

34. Except for trend analyses, the Level 2 sites will not be useful.  
*Members of the National Monitoring Strategy Committee (NMSC), comprised of key state, local, federal, and tribal members, helped to develop the Strategy. In doing so, it is the consensus of the NMSC that Level 2 sites will fill many more monitoring needs than just trends, including health assessments, consistency of data for inter-urban and inter-rural comparisons, support for SIP efforts with more information on pollutant precursors, gap-filling information in rural areas with respect to transport and background conditions, support for modeling, ecosystem analyses, and other scientific studies, and, in conjunction with the Level 3 sites, meeting the basic needs of a monitoring network for compliance, spatial mapping and public reporting, attainment/non-attainment boundary determinations, and population exposure, to name a few.*
35. The number of Level 2 sites should be flexible.  
*The recommended number of Level 2 sites represents the minimum number of such sites necessary to meet national monitoring needs. There is nothing preventing (and we are encouraging) state and local agencies to establish more than the minimum number. Some states already have an array of multi-pollutant monitoring sites, and having a Level 3 site meeting the criteria of a Level 2 site will, in essence, provide a greater level of Level 2-equivalent sites. We don't believe, however, that it is prudent to allow less than the specified minimum number of Level 2 sites nationally.*
36. Some site locations may be physically limited to accommodate Level 2 multi-pollutant monitoring to the degree needed.

- We recognize this may be the case in some circumstances, however, most states will have responsibility for establishing one Level 2 site, and the most populous states will have four. Since the recommendations for candidate Level 2 sites are to be made by the state/local agencies, we believe there will be an ample number of locations meeting Level 2 siting guidance and which can accommodate such sites logistically. In the event this is not possible, a new location may be needed which has the desirable attributes to accommodate the logistics needed for a Level 2 site.*
37. Criteria for considering air toxics monitoring are lacking.  
*To the degree possible, it is being recommended that air toxics trend sites be incorporated into the Level 2 NCore sites. Please see response to item #33.*
38. Level 2 sites are inadequate to support epidemiological studies.  
*Please refer to the response to item #25.*
39. Level 2 sites may not be sufficient to assess the effectiveness of emissions reductions strategies.  
*We agree. It is the expected combination of Level 2 and Level 3 sites that will help assess the effectiveness of control strategies through trend analyses and other data analytical tools.*
40. Level 2 sites should include ammonia where appropriate.  
*We agree. The FSD includes more specific reference to ammonia as a component to the Level 2 sites, especially in areas where ammonia emissions are an important element of particulate formation.*
41. Level 2 sites should not include PMcoarse monitoring unless new standards are set.  
*We agree. One of the objectives of the Strategy is to establish a monitoring network which can easily accommodate new monitors if and when ambient air quality standards are established for new pollutants.*
42. In rural areas, flexibility for Level 2 sites is needed in low population areas for attainment/nonattainment determinations.  
*The main focus for the rural Level 2 sites is given in the response item #29. There is no reason why such sites cannot be used for attainment/nonattainment purposes as well, but if the state/local agency believes that the rural Level 2 site(s) is (are) insufficient for that purpose, it can recommend additional locations as part of the Level 3 NCore network.*
43. The Level 1 sites may not be able to deliver what is envisioned for them.  
*The Level 1 sites are patterned in many respects after the PM Supersite program, which now has been operating for several years, and from all indications, is a successful program. The Level 1 sites will be more encompassing than the PM Supersites, will likely be operated by EPA contractors and/or universities, and*

*will have a funding stream separate from the state and local grants which will support the Level 2, Level 3, and to some extent, the local/flexible monitoring. With a separate funding stream and with a more focused research aim, every effort is being made to assure that the Level 1 sites achieve their objectives.*

44. There is no specified mechanism for disseminating information from the Level 1 sites.

*This is a good point. While the Level 1 objectives are more research and methods-testing oriented, some elements of the Level 1 sites will have accompanying monitoring similar to the more routine elements of other NCore sites. Where it is feasible to do so, real-time data collection for the more core pollutants should be incorporated into the overall NCore information transfer objectives.*

45. Level 1 sites should include a host of monitoring for which current data are lacking.

*The Level 1 sites are intended to include more pollutant monitoring than any other NCore level, targeted primarily at the following three needs: (1) the most comprehensive suite of measurements of all routine air monitoring networks; (2) a transfer technology mechanism to test emerging measurement methods under disparate conditions; and (3) a collaborative bridge across air and research programs. Any appropriate pollutant measurement meeting any of these needs is a candidate for inclusion in a Level 1 site. By definition, this should include a number of pollutants for which current data are lacking.*

46. States should have total flexibility in selecting Level 3 sites.

*States have a certain degree of flexibility in selecting Level 3 sites, provided they meet the guidelines for a Level 3 site. The EPA regional offices will have oversight approval authority for these sites to assure that the sites proposed by state/local agencies do meet the guidelines.*

*State/local agencies do have complete flexibility for any of the local/flexible sites designed to meet special local and community monitoring priorities. For these sites, EPA regional offices would need to be notified of such site locations, but would not have authority for approving or disapproving such locations.*

47. The Strategy Document lacks sufficient detail about the state/local flexible monitoring sites, and this element of the Strategy should be more prominent.

*We agree. The FSD adds appropriate details to the local/flexible component of the Strategy.*

48. EPA should have oversight approval for any state/local flexible monitoring sites.

*The intent of the EPA oversight authority is to assure that national requirements are being met, including the objectives for NCore Level 2 and 3 sites. Beyond this, however, the Strategy is cognizant of special local and community-oriented needs which are exclusive of national requirements. The intent here is to allow*

*state and local agencies the flexibility to meet those local needs, and hence, only notification to, not oversight approval by, EPA is necessary for these sites.*

### Topic 3. Air Toxics Issues

49. The relation between NCore and the NATTS network is not clear.  
*One of the key underlying principles for the NCore Level 2 sites is multi-pollutant monitoring. Co-location of monitoring from several existing monitoring programs, such as PAMS, PM2.5 speciation, and air toxics trends, significantly enhances the multi-pollutant concept. It is envisioned, therefore, that the initial phases of the NATTS network, approximately 10 to 15 air toxics trend sites, would be incorporated, where feasible and appropriate, as a component of the Level 2 multi-pollutant sites. The type of site representativeness needed for the air toxics sites, in many cases, is very much similar to the type of site representativeness needed for NCore Level 2 sites. Thus, to the degree feasible, we would expect existing air toxics trend sites to be expanded to meet Level 2 site requirements, or in the event the Level 2 site precedes the air toxics site, that the air toxics site would be co-located at the Level 2 site. In this way, we are able to leverage resources from several programs in meeting multiple program objectives. It may be that in some circumstances, the marriage of an air toxics trend site and an NCore Level 2 sites may not be appropriate because of the unique air quality conditions of an area. In such cases, the co-location of the two would not be appropriate. However, these situations are expected to be the exception, rather than the rule.*
50. Core air toxics trend sites need augmentation at the state/local level.  
*We agree. While the trend sites are expected to be co-located with the NCore Level 2 network sites, where possible, there are likely to be additional state/local needs for air toxics monitoring. This component would be considered an aspect of the state/local flexible monitoring part of the Strategy.*
51. The Strategy should incorporate recommendations of the Air Toxics Steering Committee.  
*We are cognizant of the actions of the Air Toxics Steering Committee and in fact, several members of the Air Toxics Steering Committee also serve on the National Monitoring Strategy Committee. Each committee has its own set of goals and objectives, and as far as the Strategy is concerned, we want to make sure that the proposed Strategy is consistent, and not conflicting, with what is being recommended by the Air Toxics Steering Committee. We believe this is the case.*
52. There should be better linkage between the Draft Strategy Document and the Toxics Concept Paper.  
*For the same reasons explained in item #51, we believe we have maintained consistency between the two programs.*

53. The discussion on air toxics needs more details.  
*We believe there is adequate discussion on air toxics. In fact, the CASAC NAMS Subcommittee suggested that too much emphasis was placed on air toxics within the context of the Strategy.*
54. Air toxics monitoring serves more purposes than just trends.  
*We agree. The Strategy Document recognizes such additional monitoring purposes and recommends that this be part of the local/flexible monitoring sites.*
55. Air toxics monitoring is needed near highways and intersections.  
*This may be a specific need for some locations, and may be appropriate as part of the local/flexible monitoring sites. Bear in mind, though, that NCore Level 2 multi-pollutant sites should be located in representative urban and rural locations. In most cases, near-highway and intersection locations would be too much influenced by local, rather than urban scale conditions, and therefore not good candidate Level 2 sites. Level 3 sites are intended to focus on criteria, not toxic, air pollutants.*
56. A subcommittee should be formed to incorporate air toxics exposure and risk into network design.  
*The national air toxics network development and rollout is being formulated through the Air Toxics Steering Committee. From the standpoint of the National Monitoring Strategy, we want to maximize leveraging among the various existing other monitoring programs. It is not the intent of the Strategy to dictate strategies of the other programs, but to try and maintain consistency and leveraging among them.*
57. Existing PAMS sites may not be appropriate air toxics sites.  
*We recognize that, in certain circumstances, optimum locations for air toxics sites are not consistent with optimum PAMS locations, or PM<sub>2.5</sub> speciation sites. The intent under the Strategy is to optimize leveraging of the various monitoring programs to the degree feasible, so that we maximize the ability to co-locate monitors, rather than having isolated sites for each program.*

#### Topic 4. Funding

58. The savings from divestments appear to be overestimated and will not be sufficient to support multi-pollutant sites.  
*This comment is quite common among state and local agencies. In the FSD, we have provided some specific funding changes to illustrate the potential for reallocation of resources to support the development of the NCore network. Savings estimates will vary by individual agency because of such factors as: (1) reductions in monitors, but not sites; (2) reductions in monitors and sites; and (3) reductions in filter based monitoring which carries additional laboratory analysis costs. The NMSC has recognized that there will be need for certain additional*

*capital costs for new instruments to support continuous PM monitoring, precursor pollutant monitoring, meteorological measurements; and information transfer technology. EPA is working with state and local agencies to seek separate funding for these capital costs. The savings from the divestment process is intended to offset new O&M costs for the new monitors.*

59. In low population states with few monitors to begin with, there is very little opportunity for sufficient divestments to offset the additional costs for the NCore sites, even just the O&M portion.

*Please see response to item #2.*

60. Costs for new technologies should be recognized.

*Please see response to item #58.*

61. There needs to be more recognition of costs for more skilled labor and training.

*We definitely recognize that there will be a need for training technicians to be able to operate and maintain new equipment, and this has been identified as an issue that still needs further resolution. Some agencies have staff with sufficient education and experience to be able to operate new technologies with some additional general training. Other agencies may not have staff with sufficient qualifications to meet the demands of operating, for example, a Level 2 site, and demands for such skills may affect agency staffing. Several approaches for training are discussed as part of the implementation phase of the Strategy, contained in Section 11 of the FSD.*

62. There should be recognition of added costs for servicing rural and remote site locations.

*One of the benefits of moving toward advanced information transfer technologies is the ability to perform remote routine equipment checks, such as calibrations and zero/span checks. This does not obviate the need for periodic on-site visits for repairs and more rigorous calibrations or audits. Under the Strategy, with new technologies implemented, it is envisioned that the number of field trips to the more rural or remote sites can be reduced as compared to the current needs for on-site visits by technicians.*

63. Program costs need to account for inflationary adjustments.

*One of the guiding principles for the Strategy is a zero-sum approach. That is, aside from initial catalyzing of the Strategy with special funding for new instruments and technologies, there will be no additional funding for the Strategy over the current funding for monitoring through the Section 105 and 103 grant programs. To the extent that the existing monitoring network is funded through these grant programs with or without inflationary adjustments, that same level of funding would be expected to support the Strategy.*

64. How can EPA assure that any savings are properly reinvested.

*For the Section 103 Grant process, funds are typically funded fully by EPA and earmarked for specific purposes. That will continue. For the Section 105 Grants, agencies are required to match a certain percentage, typically about 40%. Many of the 105 grants are programmatic and cover a wide range of agency functions, and there is usually grant guidance that accompanies the grants on an annual basis. But agencies have a certain degree of discretion as to how those funds are allocated among agency programs, air monitoring being one of them. Thus it may be more problematic to assure that an agency which accrues savings through divestments applies all of the saved funds to meet NCore objectives, especially if meeting such objectives are less costly than the savings through the divestment process. More specificity with respect to the annual grant guidance could be a remedy, but this issue clearly needs to be explored further.*

65. The use of the divestment savings is most properly determined by the state and local agencies.

*This comment is almost the reverse of item #64. In other words, the commenter believes that EPA should not dictate the use of any saved funding, and such savings could be used for other air program needs. Since, as stated in item #63, this is a zero-sum approach, we believe that state/local agencies should earmark all divestment savings toward continued air monitoring. One of the benefits of the Strategy is that divestment savings in many cases could be sufficient not only to meet NCore Level 2 and 3 requirements, but also to cover local/flexible monitoring to meet local community needs. Failure to do this, we believe, is contrary to the principles of the Strategy and not in the best interest of the public.*

66. Reductions of sensors do not save much, but reductions in sites do.

*We agree. Please also refer to the response to item #58.*

67. In areas where divestments have already occurred, additional cost savings may not be achievable.

*We agree, but there are several considerations. First, if some areas were progressive enough to undertake network assessments and associated divestments ahead of time, there should have been accrued savings from these actions. Those saved resources could be considered for use in meeting Strategy objectives. Second, where state/local agencies may self-fund (i.e., funds other than EPA Grant funds) substantial portions of their monitoring networks, savings may be a result of local budget cutting, and therefore saved funds may no longer be available for reprogramming to meet Strategy objectives. In these cases, Grant guidance could specify the utilization of at least those portions of the monitoring network funds through EPA Grants to meet Strategy objectives. In any case, we do not see that there is necessarily a penalty associated with areas which have undertaken early divestments.*

68. Zero-sum may work over the short-term, but not over the longer-term.

*This is likely the case whether the Strategy is implemented or we stay with the existing structure. Costs for air monitoring, if nothing else, increase at some*

*inflationary rate (e.g., annual labor rate increases) and given no increase in funding, stresses in maintaining the networks will increase. However, one of the advantages of the Strategy over the current network process is that there is a local/flexible component, which allows for use of federal Grant funds to help with local monitoring needs. Under a long-term zero-sum approach, it is possible that some of the local/flexible monitoring may need to be reduced over time to preserve the national objectives. There will likely be continuing efforts on the part of STAPPA/ALAPCO and others to gain increases in Grant funding in the future.*

69. Zero-sum approaches may not work in states which substantially fund their networks.

*It is recognized that when we refer to “zero-sum,” this refers to the EPA-funded portion of the monitoring networks. Although we hope state/local agencies recognize the importance of the air monitoring programs, we also recognize that other budget considerations often affect state/local agency budget allocations. Please also refer to item #67.*

70. Savings from less filter-based measurements should be used to fund more meteorological monitoring.

*The recommendations for minimum Level 2 NCore site configurations include certain basic meteorological measurements, including wind speed, wind direction, ambient temperature and relative humidity. State/local agencies and tribes could augment these as deemed locally appropriate as part of the local/flexible monitoring component of the Strategy.*

71. Will the transition period require additional funds?

*It is anticipated that there will need to be special funding for the capital costs of equipment to meet Level 2 and Level 3 NCore requirements, as well as for new information transfer technologies. Some funding may come from a special EPA allocation for this purpose, and some may be through competitive bid processes such as the National Environmental Information Exchange Network Grant. State and local agencies may be able to access external guidance to assist in putting together grant applications.*

72. Where will the capital investments come from?

*Please see response to item #71.*

73. How can PM savings accrue if filter-based measurements are still used in addition to continuous monitors?

*There are two key aspects to consider. First, the network assessments are intended to determine redundant and little-value-added PM10 and PM2.5 sites which no longer are necessary in order to maintain the same data integrity of the networks. Second, where co-located continuous monitors are situated, it is expected that the required frequency of filter-based sampling can be lengthened, such that fewer annual filter-based samples would be needed. Both of these*

*factors can lead to cost savings enough to cover, at least, the operating and maintenance costs of the continuous PM samplers.*

74. Funding for new technology should be distributed equally among states.  
*It is expected that additional federal funding is necessary for the initial investment for new equipment. How these funds are to be distributed is yet to be determined, and will likely be negotiated between EPA and STAPPA/ALAPCO.*
75. States should not lose out through fund redistributions.  
*Under the zero-sum approach, it is expected that States will retain approximately the same level of funding (for air monitoring) that they have received prior to the implementation of the Strategy. It is not the intent of the Strategy to be a mechanism for changing redistribution of Section 103 and 105 Grant funds given through each EPA Region, though the Regional Offices may slightly adjust funding among the States within their Region to optimize the implementation of the Strategy.*
76. The Strategy does not define what a “geographic region” is for fund distribution purposes.  
*Please refer to response to item #75.*
77. The Strategy does not state that funds will not be shifted across states.  
*Please refer to response to item #75.*
78. Fund changes should be made internally within states, not across geographical boundaries.  
*Please refer to response to item #75.*
79. The potential exists for shifting funds to states with highly urbanized areas.  
*We don't believe this is the case. Given that NCore Level 2 sites cover both urban and rural areas, and that Level 3 sites complement the Level 2 sites in both urban and rural areas, there should not be a greater emphasis on urban areas as compared to the current NAMS/SLAMS structure. If anything, the Strategy promotes greater spatial representation by including rural areas for several important objectives. Also, please refer to response to item #75.*
80. The Strategy Document does not discuss how states would be affected by funding or lack thereof.  
*The FSD does discuss, in Section 11, the concepts for funding. This is augmented with recognized needs for additional one-time funding for capital costs associated with the purchase of new technologies for continuous monitoring and information transfer (e.g., telemetry systems). Please also refer to response to item #75.*
81. Section 103 Grant funds should be used for Level 2 sites and Section 105 Grant funds for the Level 3 sites.

*There are different purposes for Section 103 Grant funds and Section 105 Grant funds. Broadly, the Section 103 Grant funds are used more for research-oriented efforts and Section 105 Grant funds support air pollution control agency programs and planning efforts. Historically, the 103 Grant funds were used for the rollout of the PM2.5 monitoring program and the air toxics pilot monitoring programs. These programs can be integrated into the Level 2 sites, for example, but other routine monitoring for criteria pollutants are not justifiable under 103 Grant programs. Thus it would be difficult to divide the funding from 103 and 105 Grants specifically for Level 2 and Level 3 sites, respectively. Rather, it may be that combinations of 103 and 105 Grants will fund both Level 2 and Level 3 sites.*

82. Level 1 sites must have new funding without impacting existing Section 105 and 103 Grants to States. Strategy should explicitly state this.

*This is the intent. The FSD is clear about this.*

83. The matching portion of the Section 105 Grant funds should be used to help fund the local/flexible monitoring.

*We agree that this is one reasonable approach. However, we also recognize that savings through divestments and available resources for re-investments to meet NCore Level 2 and Level 3 requirements will likely vary from one state/local agency to another. It is anticipated that there will be enough available funding to cover the requirements for the Level 2/3 sites and still have additional funds to assist with the state/local/flexible monitoring. This is the ideal model. However, to require that the match portion of the Grant funding be used for the local/flexible monitoring may be too restrictive in specifying how the Grant funding is utilized.*

84. EPA needs to assure that 105 Grant funds earmarked for state/local flexible monitoring programs are not re-directed by agencies to other agency functions.

*Please refer to the response to item #64.*

85. Can the use of 105 Grant funds to support the Strategy be codified in the air monitoring regulations?

*No. State/local agencies generally have certain flexibilities in applying Grant funding to meet the objectives of the Grants under Section 105 of the Clean Air Act. The CAA also authorizes certain discretionary authority on the part of the Administrator to meet specific objectives, and other regulations mandating the use of such funds to meet Strategy objectives could be deemed to be in conflict with such discretionary authority as authorized by the CAA. Rather, we need to work within the framework of the Grant programs to assure that there is appropriate funding to support the local/flexible monitoring sites.*

86. States should have enough funds for at least one Level 3 background site.

*It is expected that the revised 40 CFR Part 58 regulations empowering the NCore structure will include background conditions as one of the objectives for the*

- NCore network. It would be expected, therefore, that state/local agencies would need to design their networks to accomplish the objectives specified, including background conditions. It is intended that there will be sufficient funding to meet the Level 2 and Level 3 network objectives.*
87. New program requirements should have new funding.  
*The Strategy is designed to move from the existing SLAMS/NAMS structure to the NCore Structure. As such, it is a “renovation” of sorts of an existing network. Accordingly, we don’t view this as a new program and an unfunded mandate. Rather, we view this as a restructuring with an appropriate element that takes into strong account the limits of available funding, and how we can accommodate the new structure under that funding limit. We do recognize the need for new funding for capital costs for purchase of new technologies. Please refer also to the responses to items #71 and #75.*
88. Funding for QA needs more discussion.  
*We agree. Section 7 of the FSD now contains a discussion of funding and resource needs.*
89. At least 40% of available funding should be allocated to the local/flexible monitoring.  
*Please refer to the response to item #83.*
90. The Strategy needs to address funding needs for the development and testing of the Level 1 sites.  
*The exact funding needs for the Level 1 sites have yet to be determined, but this element is estimated to cost at least several million dollars to initiate. The costs for this component of NCore will be borne by EPA and not through the Grant programs to the state/local agencies.*
91. The Strategy needs to recognize the resource needs of the Tribes.  
*The FSD includes a complete section (#10) on Tribes.*
92. Efforts to establish PM2.5 continuous equivalency will be a drain on state/local resources.  
*Changes to federal regulations will move the equivalency process to more performance-based processes. It is expected that equivalency conditions could be demonstrated by vendors, rather than state/local agencies, such that the use of continuous monitors can be implemented without that burden being placed on the state/local agencies.*
93. Some states have insufficient resources and capabilities to evaluate new technologies effectively.  
*Please refer to the responses to items #90 and #92.*

## Topic 5. Modeling

94. Models should not be used for defining non-attainment area boundaries.  
*We agree that models should not be the sole basis for defining non-attainment area boundaries, but we do believe that as credibility of models continues to improve, we need to begin the process of using models to fill in data gaps in ways that help us more accurately define non-attainment boundaries. To that extent deterministic models, statistical analyses, spatial interpolation analyses, as well as monitored data should all be in the toolbox for determining such boundaries. It should be noted that EPA policy staff have been part of the planning efforts for the Strategy to assure a linkage between what the Strategy intends to do and what the implications are from a policy/planning standpoint.*
95. More efforts are needed to improve modeling and spatial mapping.  
*This is beyond the scope of the Strategy.*
96. There is concern about smaller agencies' capabilities to obtain and use appropriate models.  
*This is an issue for consideration as part of the linkage with the policy/planning functions.*
97. Sulfur dioxide and carbon monoxide have a role in modeling, and therefore divestments in these pollutant measurements should be done with care.  
*We recognize this fact. There are three considerations: (1) these measurements will be retained, at least, at the NCore Level 2 sites, so there will be a consistent national network including these pollutants; (2) the Strategy will promote trace level measurements of these pollutants, and (3) often, modeling is done in response to, and in conjunction with, targeted field studies. If additional measurements are needed for such field studies, they can and should be included in the study design.*
98. There is concern that model strengths apply only to the lower 48 states, and not under extreme weather conditions.  
*When we refer to models, we also include the class of statistical/empirical models which do not need the physical/chemical/meteorological submodels which need validation. The statistical/empirical models can be used for establishing intersite relationships, spatial patterns, and other similar information which can be used to help in gap-filling processes – even in extreme conditions.*
99. The Draft Strategy Document does not explain what “predictive modeling” is.  
*In the context of the Strategy, “predictive modeling” represents the ability to depict air quality conditions where there are no monitors. This can be done through deterministic modeling, such as that typically used for attainment demonstration purposes, whereby, with given emissions, meteorology, and other inputs, spatial grid patterns are displayed. “Predictive models” can also refer to statistical/empirical modeling methods which can provide interpolative results to*

*display conditions between monitors. Using the latter approach, we envision that “pseudo” stations can be utilized. These are stations with historical data which can be related statistically (e.g., regression equations) to other sites, such that if that station were discontinued, it still can be predicted from the remaining sites. This way, interpolative schemes do not lose the value of that spatial data provided by a monitor which is no longer active.*

## Topic 6. Technology

100. States testing new monitors should not be disadvantaged by the Strategy. *There is nothing in the Strategy that would favor one particular monitor over another. State/local agencies will still have the flexibility to pick and choose appropriate equipment for their networks, with the understanding, or course, that such equipment conforms to federal regulations.*
101. New equipment must be fully tested before being implemented by state and local agencies. *We agree. One of the objectives for the NCore Level 1 sites is to provide platforms for testing new technologies under a variety of meteorological and pollutant conditions across the country. We want to assure that evolving technologies have ample opportunity for field testing before routine application and use.*
102. New equipment must be simple enough to be operated by averaged trained technicians. *While we agree in concept, we cannot assure that new technologies won't be more complex to operate than the types of equipment average trained technicians are used to. We have identified “training in the use and operation of new technologies” as an issue which still needs to be addressed, and it is intended that EPA will work with state and local agencies and tribes in providing sufficient training for the operation of new equipment and technologies.*
103. The Strategy does not discuss technology transfer from EPA to state/locals for new instrumentation. *Please refer to response to item #102.*
104. EPA must resolve shortfalls in equipment performance. *EPA provides the essential requirements for acceptable instrumentation, but certainly cannot assure long-term performance of equipment. This is more in the domain of the vendors.*
105. Vendors should be required to evaluate new technology equipment performance under all environmental conditions. *Please refer to response to item #101.*

106. Rapid data polling may not be consistent with availability of high-speed communications.  
*There are numerous telemetry systems in operation across the country, not all specifically for air quality, but certainly of the same nature as envisioned for air quality telemetry systems. These employ various high-speed data communications technologies including high-speed internet, radio RF technology, and satellite bandwidth communications. Many of these operate on about a 15-minute polling frequency – the similar polling rate recommended in the Strategy – and are operating with very high data integrity. We do not believe this will be an issue.*
107. There should be a standardized national information transfer technology process and protocol.  
*There are many advantages to such a proposal. However, we need to recognize that some state/local agencies have already invested substantial resources toward a workable telemetry system, and among those in use, there are differing software/hardware configurations. We need to try to develop recommendations for workable systems with fundamental commonalities, but recognize that a “one-size-fits-all” solution is likely not achievable in practice.*
108. EPA should provide low-cost access to high-bandwidth communications satellites for polling remote sites.  
*This is something that certainly can be explored further. Because of the recent advances in wireless communications technologies, the number of truly remote sites, which have no other communications options other than satellite, is expected to be relatively small. Private communications companies offer satellite communications channels at modest costs – around \$100 per month per site. The need therefore for EPA to secure high-bandwidth accessibility still needs to be evaluated.*
109. There are few providers of two-way satellite communications service.  
*This is recognized, but those that do make the services available at reasonable costs. (See response to item #108.) Also, it may be possible to utilize TV dish services for two-way communications, and such costs including internet access are also very reasonable.*
110. Satellite communications may require greater in-house computer support.  
*We don’t believe this is the case. Currently-available systems can mix a variety of communications processes, including internet, direct telephone access, radio telemetry, and satellite, in such a way that the type of communication link is essentially invisible to the host central computer. In other words, appropriate software can accommodate these situations without needed greater in-house computer support.*
111. There could be problems with high-speed data polling versus accuracy.

*We don't believe this should be a concern. The advances in data logging capabilities, high-speed communications, and host software can easily accommodate data polling needs without compromising the integrity of the data.*

112. EPA should push for “next generation” telemetry systems.  
*It appears that the marketplace is already fostering the development of hardware/software integration to accommodate high-speed data collection and transfer via a variety of communications media, and at the same time substantially improving automated QA of the data. There are many vendors now offering systems which one could call “next generation” when compared to the traditional telemetry systems that have been used over the past 20 years.*
113. What’s wrong with the current approaches in telemetering data?  
*The main problem is that current systems tend to be locked into costly land lines for communications; they cannot handle high-speed communications from mixed communications media; they cannot access more remote sites; and automated QA is limited. To meet the needs of the Strategy, modern telemetry and communications media are more appropriate.*
114. We’re concerned that EPA may prescribe a particular communications infrastructure.  
*The intent under the Strategy is to foster high-speed communications for more timely public access to air quality data and national displays under the AirNow program. We don't envision that one specific communications structure will be prescribed. Rather, we believe that certain specifications or criteria will be recommended, and each agency can choose an appropriate approach toward meeting such criteria. While there are clear advantages to having a consistent national telemetry network, we also recognize that a “one-size-fits-all” approach is likely not in the best interests of the state and local agencies.*
115. The Frame Relay Process for internet polling is suggested.  
*There may be several processes for polling of data depending upon the form of communications utilized. As long as the hardware/software integration meets the needs of high-speed data transfer and processing, the intent of the Strategy will have been met.*
116. Institutional and governmental users need access to the data.  
*The data should be considered as two-tiered. In the first tier, the rapid collection of data from the field is targeted for rapid communication to the public. It would seem appropriate that the data made available to the public can be utilized by anyone. However, this data, while undergoing certain QA to weed out outliers, are still not “certified” data. At some later point as required by regulations, state/local agencies are required to submit to EPA their fully validated data, although the period required to certify the data may be shortened*  
*EPA is cognizant of difficulties in accessing AQS data by external users.*

## Topic 7. Network Assessments

117. Assessments should involve more than just objective methods, especially for small networks.  
*We agree. It is expected that objective methods will serve as a useful guide and foundation for the network assessments, but that local criteria and subjective factors will also come into play. It is expected that the process used in each of the assessments will be well documented to support the conclusions reached.*
118. There should be more input from meteorologists and modelers.  
*There is nothing preventing greater input from these areas of expertise.*
119. EPA should have standardized guidelines and regional consistency for the assessments.  
*We agree that some measure of consistency is needed. EPA convened regional assessment workshops in October 2002 and September 2003. Because the status of the networks differs among the regions, standardized guidelines will not be applicable for this initial assessment. CASAC has recently advocated the need for standardized guidance, and EPA is expected to have such guidance developed before the end of 2005 – well in advance of the next round of network assessments.*
120. The network assessments should have OAQPS oversight.  
*While direct oversight is not intended, OAQPS has had substantial input to the network assessment process. Please refer to the response to item #119.*
121. Network assessments should be done every five years. The 2-3 cycle is too tight.  
*We agree. As originally proposed, the national/regional assessments are to be done every 5 years, with state/local assessments during the intervening period, about every 2-3 years. Since the process for these assessments does take considerable time to be done effectively, there would not be much time remaining before state/local agencies would need to begin their intervening review. Therefore, the FSD has been clarified to only reflect the 5-year assessment.*

## Topic 8. Quality Assurance

122. Quality assurance requirements should be short, simple, and easy to understand.  
*To the degree possible, this is the intent of the revisions to the quality assurance regulation.*
123. There should be regular updates to the quality assurance program.

*Part of the revisions to 40 CFR Part 58 regulations will include components of the quality assurance program.*

124. Generic QAPP software products should be included.  
*This intent is included in the FSD. Also, it should be noted that EPA did receive Tribal Initiative Funds to develop a QAPP software product for Tribal use. This software product should be available for the general ambient air monitoring community in FY2004 or early FY2005.*
125. Formal methods and procedures for new technologies (e.g., LIDAR, field GC's) should be established.  
*We agree. But with the realization of resource constraints, it is prudent to focus on those methods that are more established in the ambient air monitoring program, while relying on vendors for methods on the newer technologies. This could change if budget conditions improve in the future.*
126. There should be performance-based audit programs.  
*By developing a performance-based quality system for the ambient air monitoring program, the audit programs will move in the same direction, not only by way of acceptance criteria, but the selection of the audits to perform.*
127. There should be strict validation protocols to assure only validated data are used in models.  
*We agree, but these validation protocol need to be developed by the modeling community. Many times the primary objective of collecting information is not for modeling (e.g., NAAQS attainment) yet the data may be used for modeling. The modeling community needs to determine the measurement quality attributes that allow them to determine what data they consider acceptable for their use.*
128. There should be data validation criteria for meteorological data.  
*We agree. As we proceed in developing and completing data validation for our primary measurements, it is envisioned that we will then work on the same processes for our secondary and supporting data.*
129. The Strategy should include clear objectives and guidance for certification of data.  
*We agree. The issuance of such material will be included in the regulation revisions, guidance memoranda, or other documents (e.g., QA Handbook). The exact details for the form of issuance have not yet been completed. The fact is, though, that such details are not needed in the Strategy Document.*
130. Quarterly, rather than annual certification processes should recognize increased staff time and long lead times for filter-based data.  
*This issue has been recognized in the discussions of the Quality Assurance Strategy Workgroup, though no specific recommendations have yet emerged.*

131. Creative and innovative QA approaches may be best suited for meaningful Tribal participation.

*The quality assurance protocols set out in 40 CFR Part 58 should be applicable to all monitoring programs regardless of the level of sophistication of the monitoring network. However, other QA elements are typically found in guidance documents. If such guidance is not deemed to be appropriately applicable to Tribal air monitoring programs, Tribal representatives should coordinate with EPA staff to determine more relevant guidance for Tribal programs. That level of detail, however, is beyond the scope of the Strategy.*

132. Why is a process for certification/accreditation of personnel necessary?

*The Quality Assurance Strategy Workgroup felt that a certification/accreditation process was a way to help in the personnel turnover process by ensuring consistency in QA knowledge within the Ambient Air Monitoring Program QA Community, and it established personnel growth goals for those using individual development plans.*

#### Topic 9. Monitoring Methods

133. There are concerns about TEOM's not accounting for the full mass.

*We are cognizant of some of the problems with TEOMs, especially in nitrate-rich areas where the heated inlets tend to volatilize some of the mass. Newer generation TEOM's do not have the same degree of problems. EPA is considering several approaches for the utilization of PM continuous monitors such that reliable measurements and data capture are assured.*

134. There needs to be recognition of the logistical difficulties in adding continuous monitors (e.g., space, housing, etc.)

*We believe such difficulties will be the exception, rather than the rule. For sites where only filter-based monitors exist, with no existing housings for any other instruments, there are commercially available housings designed to accommodate continuous PM monitors. Such enclosures are typically not very large, so in the large majority of sites, space for these will not be a problem.*

135. Aetholometers should not be required for Level 2 sites.

*Aetholometers will not be required for the base Level 2 sites; however, it may be appropriate to include aetholometers at some Level 2 sites where state/local agencies or Tribes determine that including aetholometers would enhance the multi-pollutant nature of the site. Since aetholometers measure black carbon, urban sites areas affected by diesel exhaust, or other areas affected by wintertime woodsmoke may benefit by having aetholometers included.*

136. NOy provides little value in urban areas.

*As currently proposed, requirements for NO/NOy will be included in the base design for Level 2 sites. Since NOy includes other reactive nitrogen species, such as nitric acid and PAN, in addition to NO and NO2, these measurements are*

*important components for understanding atmospheric chemistry. While it is generally true that in source-oriented urban areas, reactions have not yet occurred prior to transport to downwind areas, and NO<sub>x</sub> may be more appropriate in the urban areas, it is important to at least initially measure NO<sub>y</sub> in both urban and non-urban areas to determine the extent to which the other nitrogenous compounds exist.*

137. EPA needs to push for the development of acrolein and continuous carbonyl monitors.  
*While continuous monitors are one of the key concepts of the Strategy, the development of non-criteria pollutant monitors will likely remain within the domain of the private sector, similar to the development of continuous monitors for specific components of particulates. However, EPA ORD may take a more active role in this process.*

138. A specification for a PMcoarse FRM may not be necessary.  
*The Strategy is designed to be able to accommodate new criteria pollutants, such as PMcoarse, with minimum impact on existing monitoring programs. FRM specifications are not within the scope of the Strategy.*

139. There is a need to address the potential measurement differences as a function of vendor.  
*It is presumed that the establishment of federal reference or equivalent measurement methods assures measurement consistencies among various vendors. Similar to the response to item #138, the FRM-setting process is not part of the Strategy.*

#### Topic 10. Regulation Changes

140. Any changes to the regulations should be short, simple, and easy to understand.  
*To the degree possible, regulation changes will meet these conditions.*

141. There should not be any regulation changes until PM<sub>2.5</sub> attainment/non-attainment conditions have been determined.  
*The empowering regulations for the Strategy are on a separate track from the PM<sub>2.5</sub> process. This is necessary so that scheduling changes for one will not affect the timetable for the other.*

142. The regulation changes are not clearly specified in the Draft Strategy Document.  
*This is because discussions between EPA and state/local agencies as part of the Regulation Workgroup were still in progress at the time the Draft Strategy Document was released. While a greater level of specificity is included in the FSD, it must be remembered that any regulation changes require a separate*

- regulatory action by EPA, with the issuance of a proposal, allowance for public comments, and final regulatory action. While the Final Strategy Document may summarize the potential regulatory changes, the final outcome will be based on that separate regulatory process.*
143. Regulation changes must be more sensitive to accommodating new technologies.  
*Your comment is noted. Please also refer to the response to item #142.*
144. Regulation changes should include only those elements which can be funded. The rest should be in guidance.  
*The regulation changes should encompass the elements necessary to assure that the Strategy is enabled effectively, noting that one of the principles of the Strategy is that monitoring encompasses a zero-sum approach. One of the difficulties in tying regulation changes to specific funding is that funding may change from year to year, and so what may fit this year, may not next year.*
145. Regulations should not include requirements for 1- and 5-minute averages unless absolutely necessary.  
*Averaging times should be appropriate to meet air quality data objectives. Current advances in technologies, including instruments, data loggers, information transfer, computer processing and data archiving, make such approaches viable without encumbering significant additional staff resources, as would be the case for the previous generation of technologies.*
146. Part 58.3 does not adequately address tribes.  
*The revised regulations will address this.*
147. EPA should create new NAAQS for air toxics and retire old NAAQS no longer presenting health threats.  
*Changes in the National Ambient Air Quality Standards are not part of the Strategy. There are separate processes with respect to establishment/revision of the NAAQS.*

#### Topic 11. Implementation

148. There needs to be recognition of the time needed to implement the Strategy.  
*The Draft Strategy Document did not directly address implementation issues. However, the FSD includes an entire section (#11) on implementation, including a realistic implementation schedule.*
149. There needs to be a methodical approach toward implementation.  
*We agree. Please refer to response to item #148.*

150. For implementation, more details and guidance are needed.  
*Please refer to response to item #148.*

## Topic 12. Coordination

151. The role of the EPA Regional Offices is poorly defined.  
*The Regional Offices play a major role in working with state/local agencies and tribes in: (1) conducting the initial and every-five-year network assessments, and approving network changes; (2) recommending approval (to OAQPS) of Level-2 NCore site locations, and approving Level-3 site locations; (3) in assuring proper resource allocations for Section 105 and Section 103 Grant Funds to state/local agencies; and (4) assisting, if necessary, state/local agencies with decisions regarding local/flexible monitoring needs. As such, the role of the Regional Offices are integral to the successful implementation of the Strategy.*
152. Tribes need to be included in national monitoring programs.  
*This is clearly recognized in the Strategy. Tribes have representation on the National Monitoring Strategy Committee, which has had oversight on the development of the Strategy Document. It is recognized that, in most cases, state/local agency monitoring programs and supporting technical staff have had substantially more experience than the tribes, and to the degree that technology and knowledge sharing can be fostered between air agencies and tribes, the Strategy encourages such an approach. It is further recognized that tribes can play an important role in meeting the objectives of some rural Level-2 NCore sites.*
153. Tribes do not have the same function/role as the state/local agencies.  
*Please refer to the response to item #152.*
154. States should help share information, expertise, and equipment with tribes.  
*We agree. Please refer to the response to item #152.*

## Topic 13. Public Communications

155. The Strategy needs to address the impact on the public of reduced monitors.  
*The Strategy clearly recognizes the importance of public education and outreach with respect to any changes in the monitoring network. State/local agencies and tribes are encouraged to engage the public prior to making network changes. EPA, working with its contractors, is publishing a public brochure describing the purposes of air monitoring networks and the reasons for change. The brochure states that these efforts will result in more complete and more timely information to the public on a regular basis. This brochure is intended for widespread*

*distribution across the country, both in hardcopy form and as postings to SLT websites.*

156. Care is needed in evaluating public need for information versus accuracy of information.

*One of the key goals of the Strategy is to employ new technologies, including information transfer. The state-of-the-art with respect to data logging and automated data checks and flagging, coupled with high-speed communications pathways, can accommodate both concerns. We should be able to evolve our monitoring networks into efficient automated processes, with less manual interventions, with assurances that obviously erroneously information is flagged quickly, and with capabilities to provide the public with this information as close to real-time as possible. Under these conditions, however, we recognize the need to caveat such publicly-released data as “preliminary” until final certification of the data are provided by the agencies.*

157. There is a greater need for public dissemination of air toxics data.

*We agree. The Strategy proposes to include air toxics monitoring at some of the Level-2 sites where it is feasible and appropriate to do so. One of the difficulties right now in providing quick public access to such data is that samples are often collected in canisters or filters, and sent to laboratories for analysis. Because these processes often take days or weeks to complete, real-time information is typically not possible. Where continuous methods, such as auto-GC's, can be incorporated into the automated data collection and transfer processes, the potential for rapid dissemination of such data may be possible.*

158. EPA should assume the lead role for public outreach.

*We believe that public outreach efforts are a shared responsibility among EPA, the state and local agencies, and the tribes. However, EPA has taken leadership responsibility for the development of several communications/outreach pieces, including a web site, a fact sheet, and a public brochure. Please refer to the response to item #155.*

159. Public outreach efforts should be limited to only those situations when agencies are questioned by the public and corporate entities.

*We disagree with this statement. For the Strategy to be successful, a proactive approach for engaging the public is essential. We believe an informed public is a valuable asset, and as public agencies, we have a responsibility to foster that.*

#### Topic 14. Training

160. EPA must support training of state/local staff.

*Training is a key component to successfully implement the Strategy. With the incorporation of new technologies, from instrumentation to on-site computers and data loggers to information transfer devices, there will likely be critical needs to*

*train technicians. We consider training to be one of the key implementation described in Section 11 of the FSD. Please refer to the response to item #148.*

161. EPA should establish a workgroup of trained and experienced monitoring staff to assist with needed training of state/local agency staff.

*Your recommendation is noted. Please refer to the response to item #160.*

162. There should be a greater level of importance given to training in the Strategy Document.

*Please refer to the response to item #160. Training has been identified in the FSD as one of the important implementation issues.*

#### Topic 15. Miscellaneous

163. The Draft Strategy Document needs substantial re-write and condensing.

*The Final Strategy Document has been prepared in a more traditional format, and contains more detailed information, than the Draft Summary Document.*

164. The Strategy Document should be simplified.

*Please refer to the response to item #163.*