Ben DeAngelo/DC/USEPA/US 12/06/2009 06:19 PM To Carol Holmes, John Hannon, Dina Kruger, Rona Birnbaum cc

bcc

Subject proposing to delete this comment from vol 10 ...

There were questions about getting more detail from this original comment and when I go to the original comment all of the cause/contribute issues are already captured by the Findings and other responses in this volume. (b)(5) Deliberative

Comment (10-19):

(b)(5) Deliberative

EPA-3130 Rona To William Perkins Birnbaum/DC/USEPA/US cc 12/06/2009 06:21 PM bcc Subject couple comments (b)(5) Deliberative Vol8.1 R1 to Rona.doc Rona, This is the only comment (6)(6) Deliber 12/06/2009 05:03:12 PM William Perkins From: William Perkins/DC/USEPA/US Rona Birnbaum/DC/USEPA/US@EPA To: Date: 12/06/2009 05:03 PM Subject: Vol8 R1 for your quick review

Rona,

This is the only comment

(b)(5) Deliberative

I think it is good to go. Thank you.

Cheers,

Bill

[attachment "Vol8.1 R1 to Rona.doc" deleted by Rona Birnbaum/DC/USEPA/US]

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

 William
 To
 Mae Thomas, Matthew Mitchell, Sue Eisenfeld

 Perkins/DC/USEPA/US
 cc
 Jason Samenow

 12/06/2009 06:22 PM
 bcc
 Subject

 Subject
 Fw: requests for ERG on vol 2

Matt, Sue, and Mae,

As I emailed about earlier, here is the additional work that we need completed on Volume 2 (enclosed).

Jason's big instructions are at the bottom, then follow-on instructions for creating appendices are above that.

Please note that

(b)(5) Deliberative

Jason Samenow is the POC for this at 202.343.9327.

Finally, your team is doing a really great job on this and this will all be complete in the next few hours.

Thank you.

Cheers,

Bill

Also, Please indicate that these are cached versions of the webpages from the given dates. If they have any questions on how they should look then please call Jason.

----- Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 06:16 PM -----

| From: | Jason Samenow/DC/USEPA/US |
|----------|---------------------------------|
| To: | William Perkins/DC/USEPA/US@EPA |
| Date: | 12/06/2009 06:15 PM |
| Subject: | Fw: requests for ERG on vol 2 |

for appendix a and b: we should add text indicating these are in fact cached versions of the web pages from dates given , and provide these links:

appendix a:

http://74.125.93.132/search?q=cache:KOxdACr9VBMJ:www.cru.uea.ac.uk/cru/data/temperature/+cru+temperature+data&hl=en&gl=us&strip=1 (cached version from november 28, 2009) appendix b:

http://74.125.93.132/search?q=cache:mcd09WUmm08J:https://www.cru.uea.ac.uk/cru/data/availability/+ http://www.cru.uea.ac.uk/cru/data/availability/&hl=en&gl=us&strip=1 (cached version from october 21, 2009)

appendix c contains web text from a page which is live, so nothing special to do there.

Also, i just found a cached version for appendix d, which is attached.

the url is:

http://74.125.93.132/search?q=cache:shJLWuK7EkcJ:https://www.cru.uea.ac.uk/cru/people/briffa/yamal2 000/+%22The+substantive+implication+of+McIntyre%27s+comment%22&hl=en&gl=us&strip=1 (cached version from nov 5, 2009)



Yamal ring-width chronology of Briffa (2000).htm

----- Forwarded by Jason Samenow/DC/USEPA/US on 12/06/2009 05:46 PM -----

| From: | Jason Samenow/DC/USEPA/US |
|----------|---------------------------------|
| To: | William Perkins/DC/USEPA/US@EPA |
| Date: | 12/06/2009 05:24 PM |
| Subject: | requests for ERG on vol 2 |

Instructions for ERG on Volume 2:

1) Address all margin comment bubbles directed to "ERG" in both the RTC and reference attachment and adjust references based on margin bubbles as necessary

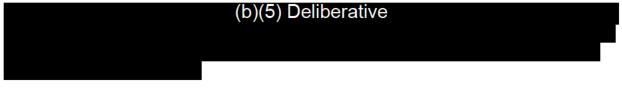
2) Add the 2 comments and responses below to the Extreme Event section of this volume (at the end is fine), and renumber comments/responses beneath that. (note: the references cited in these RTCs are already in the TSD).

| 3 |) Making | any | necessary | / formatting | adjus | tments | to the A | Appendi | ices. | (| (b)(5) C | elibera | tive | |
|---|----------|-----|-----------|--------------|-------|--------|----------|---------|-------|---|----------|---------|------|--|
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

4) Merge references (in separate document) with main volume

Thanks so much... Jason

Comment:



Response:

| | (b)(5) Deliberative | |
|--|---------------------|--|
| | | |
| | | |
| | | |
| | | |



hadcru-temperature.htm hadcru-availability.htm vol 2 120709.doc references vol 2 120709.doc

This is Google's cache of <u>https://www.cru.uea.ac.uk/cru/data/availability/</u>. It is a snapshot of the page as it appeared on Oct 21, 2009 12:27:45 GMT. The <u>current page</u> could have changed in the meantime. <u>Learn more</u>

These terms only appear in links pointing to this page: http www cru uea ac uk cru data availability

Full version

Climatic Research Unit : Data

CRU Data Availability

The Climatic Research Unit (CRU) at the University of East Anglia (UEA) has, since 1982, made available gridded datasets of surface temperature data over land areas and averages for the Northern and Southern Hemispheres and the Globe. Until the development of the internet these were made available via various media. These datasets (the latest being CRUTEM3 <u>http://www.cru.uea.ac.uk/cru/data/temperature/</u>) have been developed from data acquired from weather stations around the world. Almost all these weather stations are run by National Meteorological Services (NMSs) and they exchange these data over the CLIMAT network, which is part of the World Meteorological Organization's (WMO) Global Telecommunications System (GTS). Much of the original data in the early 1980s came from publications entitled 'World Weather Records'. We also make use of data available from the National Climatic Data Center in Asheville, North Carolina (their <u>Global Historical Climatology Network</u>, GHCN). We are also constantly striving to find additional, and homogenized data from a wide range of sources (see details of earlier work in the publications below). Both the gridded datasets and the station data archive have evolved over the years and we developed dataset version numbers in the early 1990s. The methodology we have used in developing the gridded datasets has been described in numerous publications in the climate literature (see list at the end of this document and also <u>http://www.cru.uea.ac.uk/cru/data/temperature/</u> and the linked FAQs).

Since the early 1980s, some NMSs, other organizations and individual scientists have given or sold us (see Hulme, 1994, for a summary of European data collection efforts) additional data for inclusion in the gridded datasets, often on the understanding that the data are only used for academic purposes with the full permission of the NMSs, organizations and scientists and the original station data are not passed onto third parties. Below we list the agreements that we still hold. We know that there were others, but cannot locate them, possibly as we've moved offices several times during the 1980s. Some date back at least 20 years. Additional agreements are unwritten and relate to partnerships we've made with scientists around the world and visitors to the CRU over this period. In some of the examples given, it can be clearly seen that our requests for data from NMSs have always stated that we would not make the data available to third parties. We included such statements as standard from the 1980s, as that is what many NMSs requested. The inability of some agencies to release climate data held is not uncommon in climate science. The Dutch Met Service (KNMI) run the European Climate Assessment and Dataset (ECA&D, http://eca.knmi.nl/) project. They are able to use much data in their numerous analyses, but they cannot make all the original daily station temperature and precipitation series available because of restrictions imposed by some of the data providers. A series of workshops (see Peterson and Manton, 2008 for details) has been held in diverse regions of the world to produce analyses of trends in extremes. NMSs are generally happy to release derived products from their data, even if they restrict access to their digital climate archives. A third example is the Global Precipitation Climatology Centre (http://gpcc.dwd.de), run by the German Weather Service (DWD) who make various versions of gridded precipitation datasets freely available, but due to restrictions imposed by data providers are not able to give access to any of the station monthly precipitation totals. The problem is a generic issue and arises from the need of many NMSs to be or aim to be cost neutral (i.e. sell the data to recoup the costs of making observations and preparing the data).

We receive numerous requests for these station data (not just monthly temperature averages, but precipitation totals and pressure averages as well). Requests come from a variety of sources, often for an individual station or all the stations in a region or a country. Sometimes these come because the data cannot be obtained locally or the requester does not have the resources to pay for what some NMSs charge for the data. These data are not ours to provide without the full permission of the relevant NMSs, organizations and scientists. We point enquirers to the GHCN web site. We hope in the future that we may be able to provide these data, jointly with the UK Met Office Hadley Centre, subject to

EPA-EF-005324

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 7 of 150

obtaining consent for making them available from the rights holders. In developing gridded temperature datasets it is important to use as much station data as possible to fully characterise global- and regional-scale changes. Hence, restricting the grids to only including station data that can be freely exchanged would be detrimental to the gridded products in some parts of the world.

We are not in a position to supply data for a particular country not covered by the example agreements referred to earlier, as we have never had sufficient resources to keep track of the exact source of each individual monthly value. Since the 1980s, we have merged the data we have received into existing series or begun new ones, so it is impossible to say if all stations within a particular country or if all of an individual record should be freely available. Data storage availability in the 1980s meant that we were not able to keep the multiple sources for some sites, only the station series after adjustment for homogeneity issues. We, therefore, do not hold the original raw data but only the value-added (i.e. quality controlled and homogenized) data. The priorities we use when merging data from the same station from different sources are discussed in some of the literature cited below. Parts of series may have come from restricted stated sources. whilst the rest came from other sources. Furthermore, as in http://www.cru.uea.ac.uk/cru/data/landstations/ we have never kept track of changes to country names, as it is only the location and the station's data that are important. So, extracting data for a single country isn't always a simple task.

We rely on the CLIMAT network for updating CRU data series in near-real time. After quality control at the Hadley Centre these data are made available (since 2000) at http://hadobs.metoffice.com/crutem3/data/station_updates/. Much climate data are now additionally available through the internet from NMSs, but these are often difficult to use as data series often refer to national numbering systems, which must be related back to WMO Station Identifiers. Furthermore a number of NMSs make homogenized data (after adjustments for example for site moves, instrument improvements and changes in the way averages are calculated) available in delayed mode over the internet. Some that provide both raw and homogenized versions, generally do not link the two sets of data together.

Some years ago, WMO enacted Resolution 40 (<u>http://www.map.meteoswiss.ch/map-doc/WMO/WMOresol40.htm</u>) which covers the exchange of meteorological data and many data products and services produced by NMSs. This resolution applies only to NMSs and whilst Annex 1 implies that much data should be freely available for research and operational uses (commercial is discussed separately in the resolution), many still impose conditions and charge for access (see the earlier discussion related to KNMI and GPCC).

The HadCRUT3 product is a blend of land surface (CRUTEM3) and sea surface temperatures (HadSST2), CRU developing the land series and the Hadley Centre the SST series. Real-time updates of both components are performed at the Hadley Centre (data available at <u>http://hadobs.metoffice.com/</u> and also on the CRU site). The collaboration has been ongoing for more than 20 years. A similar set of publications on the Hadley Centre site document the development of the SST datasets.

Files

• Data agreements (Adobe Portable Document Format file)

References

- Hulme, M., 1994: The cost of climate data: A European experience. Weather 49, 168-176.
- Peterson, T.C. and Manton, M.J., 2008: Monitoring changes in climate extremes: a tale of international collaboration. *Bull. Amer. Meteorol. Soc.* **89**, 1266-1271.

Literature describing the development of CRU land temperature datasets

• Brohan, P., Kennedy, J., Harris, I., Tett, S.F.B. and Jones, P.D., 2006: Uncertainty estimates in regional and global observed temperature changes: a new dataset from 1850. *J. Geophys. Res.* **111**, D12106,

EPA-EF-005325

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 8 of 150 doi:10.1029/2005JD006548.

- Jones, P.D. and Moberg, A., 2003: Hemispheric and large-scale surface air temperature variations: An extensive revision and an update to 2001. *J. Climate* **16**, 206-223.
- Jones, P.D., New, M., Parker, D.E., Martin, S. and Rigor, I.G., 1999: Surface air temperature and its variations over the last 150 years. *Reviews of Geophysics* **37**, 173 199.
- Jones, P.D., Wigley, T.M.L. and Kelly, P.M., 1982. Variations in surface air temperatures, Part 1: Northern Hemisphere, 1881-1980. *Monthly Weather Review* **110**, 59-70.
- Jones, P.D., Raper, S.C.B., Bradley, R.S., Diaz, H.F., Kelly, P.M. and Wigley, T.M.L., 1986: Northern Hemisphere surface air temperature variations: 1851-1984. *Journal of Climate and Applied Meteorology* **25**, 161-179.
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- Jones, P.D. and Briffa, K.R., 1992: Global surface air temperature variations over the twentieth century: Part 1 Spatial, temporal and seasonal details. *The Holocene* **2**, 165-179.
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- Bradley, R.S., Kelly, P.M., Jones, P.D., Goodess, C.M. and Diaz, H.F., 1985: A Climatic Data Bank for Northern Hemisphere Land Areas, 1851-1980, U.S. Dept. of Energy, Carbon Dioxide Research Division, *Technical Report TRO17*, 335 pp.
- Jones, P.D., Raper, S.C.B., Santer, B.D., Cherry, B.S.G., Goodess, C.M., Kelly, P.M., Wigley, T.M.L., Bradley, R.S. and Diaz, H.F., 1985: A Grid Point Surface Air Temperature Data Set for the Northern Hemisphere, U.S. Dept. of Energy, Carbon Dioxide Research Division, *Technical Report TRO22*, 251 pp.
- Jones, P.D., Raper, S.C.B., Cherry, B.S.G., Goodess, C.M. and Wigley, T.M.L., 1986: A Grid Point Surface Air Temperature Data Set for the Southern Hemisphere, 1851-1984, U.S. Dept. of Energy, Carbon Dioxide Research Division, *Technical Report TR027*, 73 pp.

file:///C//Documents%20and%20Settings/dhyland/Desktop/hadcru-availability htm[2/23/2012 5:18:21 PM]

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 9 of 150

This is Google's cache of <u>http://www.cru.uea.ac.uk/cru/data/temperature/</u>. It is a snapshot of the page as it appeared on Nov 28, 2009 21:54:02 GMT. The <u>current page</u> could have changed in the meantime. <u>Learn more</u>

These search terms are highlighted: hadley cru temperature These terms only appear in links pointing to this Full version page: center

<u>Climatic Research Unit</u>: <u>Data</u>

<u>Graph</u> <u>Hemispheric and global averages graph</u> (also available as a <u>EPS</u> and <u>PDF</u>)

Temperature

From the beginning of January 2006, we have replaced the various grid-box **temperature** anomaly (from the base period 1961-90) datasets with new versions, HadCRUT3 and CRUTEM3 (see Brohan et al., 2006). The datasets have been developed in conjunction with **Hadley** Centre of the UK Met Office. These datasets will be updated at roughly monthly intervals into the future. Hemispheric and global averages as monthly and annual values are available as separate files.

This text gives some brief information to users about the datasets including:

- Scientific papers that should be consulted for complete details and referenced if any of the datasets are used
- Dataset terminology, file formats and downloads available
- <u>Answers to some frequently-asked questions</u>

The earlier versions (HadCRUT2 and CRUTEM2 and their variance adjusted versions) can be found <u>here</u>. They are no longer being updated.

References

- Brohan, P., J.J. Kennedy, I. Harris, S.F.B. Tett and P.D. Jones, 2006: Uncertainty estimates in regional and global observed temperature changes: a new dataset from 1850. *J. Geophysical Research* 111, D12106, doi:10.1029/2005JD006548 -- Available as PDF
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- Rayner, N.A., P. Brohan, D.E. Parker, C.K. Folland, J.J. Kennedy, M. Vanicek, T. Ansell and S.F.B. Tett, 2006: Improved analyses of changes and uncertainties in marine **temperature** measured in situ since the midnineteenth century: the HadSST2 dataset. J. Climate, **19**, 446-469.
- Rayner, N.A., Parker, D.E., Horton, E.B., Folland, C.K., Alexander, L.V, Rowell, D.P., Kent, E.C. and Kaplan, A., 2003: Globally complete analyses of sea surface temperature, sea ice and night marine air temperature, 1871-2000. J. Geophysical Research 108, 4407, doi:10.1029/2002JD002670

Dataset Terminology

CRUTEM3CRUTEM3vHadCRUT3HadCRUT3vHadSST2Absolute

| land air temperature anomalies on a 5° by 5° grid-box basis | | | |
|---|--|--|--|
| variance adjusted version of CRUTEM3 | | | |
| combined land and marine [sea surface temperature (SST) anomalies from HadSST2, see Rayner et al., 2006] temperature anomalies on a 5° by 5° grid-box basis | | | |
| variance adjusted version of HadCRUT3 | | | |
| | | | |

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Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 10 of 150

sea surface **temperature** anomalies from Rainer et al (2006)

Absolute temperatures for the base period 1961-90 (see Jones et al., 1999)

File Formats

CRUTEM3, CRUTEM3v, HadCRUT3, HadCRUT3v, Absolute ASCII file format

for year = 1850 to endyear
for month = 1 to 12 (or less in endyear)
format(2i6) year, month
for row = 1 to 36 (85-90N,80-85N,75-70N,...75-80S,80-85S,85-90S)
format(72(e10.3,1x)) 180W-175W,175W-170W,...,175-180E

Data represent **temperature** anomalies wrt 1961-90 °C Missing values represented by -1.000e+30 Absolute is just the twelve monthly averages for 1961-90: there are no years

HadSST2 ASCII file format

```
for year = 1850 to endyear
for month = 1 to 12 (or less in endyear)
format(2i12) month, year
for row = 1 to 36 (85-90N,80-85N,75-70N,...75-80S,80-85S,85-90S)
format(72(f7.2,1x)) 180W-175W,175W-170W,...,175-180E
Data represent temperature anomalies wrt 1961-90 °C
Missing values represented by -99.99
```

Hemispheric/global average data file format

```
for year = 1850 to endyear
format(i5,13f7.3) year, 12 * monthly values, annual value
format(i5,12i7) year, 12 * percentage coverage of hemisphere or globe
Coverage of 0 means data not yet available
```

<u>NetCDF format</u> is read by many commercial data-processing packages (eg. <u>IDL</u>) and public-domain software (eg. <u>neview</u>, a NetCDF viewer, and <u>NCL</u>, a scriptable data-manipulation and visualisation package)

Data for Downloading

DatasetFull gridEnd month

Updated Hemispheric means Hadley CentreCRUTEM3 CRUTEM3v HadCRUT3 HadCRUT3v HadSST2 Absolute

| Zipped ASCII 2 MB | NetCDF 18 MB | 2009-02 2009-03-13 | NH | <u>SH</u> | GL | |
|----------------------|-----------------|-----------------------|----|-----------|----|---------------|
| Zipped ASCII 3 MB | NetCDF 18 MB | 2009-02 2009-03-13 | NH | <u>SH</u> | GL | Hadley Centre |
| Zipped ASCII 7 MB | NetCDF 18 MB | 2009-02 2009-03-12 | NH | <u>SH</u> | GL | |
| Zipped ASCII 7 MB | NetCDF 18 MB | 2009-02 2009-03-12 | NH | <u>SH</u> | GL | Hadley Centre |
| Zipped ASCII 3 MB | NetCDF 37 MB | 2009-02 2009-03-05 | NH | <u>SH</u> | GL | Hadley Centre |
| Zipped ASCII 3 MB | NetCDF 63 KB | | | | | |

EPA-EF-005328

file:///Cl/Documents%20and%20Settings/dhyland/Desktop/hadcru-temperature.htm[2/23/2012 5:18:09 PM]

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 11 of 150 All these files can also be found on our FTP server <u>ftp://ftp.**cru**.uea.ac.uk/data</u>

Answers to Frequently-asked Questions

The answers given are intended to be brief rather than comprehensive. For complete details readers are referred to the scientific references already given.

What are the basic raw data used?

Over land regions of the world over 3000 monthly station **temperature** time series are used. Coverage is denser over the more populated parts of the world, particularly, the United States, southern Canada, Europe and Japan. Coverage is sparsest over the interior of the South American and African continents and over the Antarctic. The number of available stations was small during the 1850s, but increases to over 3000 stations during the 1951-90 period. For marine regions sea surface **temperature** (SST) measurements taken on board merchant and some naval vessels are used. As the majority come from the voluntary observing fleet, coverage is reduced away from the main shipping lanes and is minimal over the Southern Oceans. Maps/tables giving the density of coverage through time are given for land regions by Jones and Moberg (2003) and for the oceans by Rayner *et al.* (2003). Both these sources also extensively discuss the issue of consistency and homogeneity of the measurements through time and the steps that have made to ensure all non-climatic inhomogeneities have been removed.

Why are sea surface temperatures rather than air temperatures used over the oceans?

Over the ocean areas the most plentiful and most consistent measurements of **temperature** have been taken of the sea surface. Marine air temperatures (MAT) are also taken and would, ideally, be preferable when combining with land temperatures, but they involve more complex problems with homogeneity than SSTs (Rayner *et al.*, 2003). The problems are reduced using night only marine air **temperature** (NMAT) but at the expense of discarding approximately half the MAT data. Our use of SST anomalies implies that we are tacitly assuming that the anomalies of SST are in agreement with those of MAT. Many tests show that NMAT anomalies agree well with SST anomalies on seasonal and longer time scales in most open ocean areas. Globally the agreement is currently very good (Rayner et al, 2003), even better than in Folland *et al.* (2001b). However, some regional discrepancies in open ocean trends have recently been found in the tropics (Christy *et al.*, 2001).

Why are the temperatures expressed as anomalies from 1961-90?

Stations on land are at different elevations, and different countries estimate average monthly temperatures using different methods and formulae. To avoid biases that could result from these problems, monthly average temperatures are reduced to anomalies from the period with best coverage (1961-90). For stations to be used, an estimate of the base period average must be calculated. Because many stations do not have complete records for the 1961-90 period several methods have been developed to estimate 1961-90 averages from neighbouring records or using other sources of data. Over the oceans, where observations are generally made from mobile platforms, it is impossible to assemble long series of actual temperatures for fixed points. However it is possible to interpolate historical data to create spatially complete reference climatologies (averages for 1961-90) so that individual observations can be compared with a local normal for the given day of the year.

Why do anomalies not average exactly zero over 1961-90?

Over both the land and marine domains considerable care has been taken in calculating the base period values for the 1961-90 period. However, as all regions don't have complete data for this 30-year period, the anomaly data do not average exactly to zero for this 30-year period. This also applies to the global and hemispheric average series as well as the individual grid-box series. However, the IPCC optimally averaged global and hemispheric time series (see later web address) are constrained to have anomalies that average to zero over 1961-90.

How are the land and marine data combined?

EPA-EF-005329

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 12 of 150 Both the component parts (land and marine) are separately interpolated to the same $5^{\circ} \times 5^{\circ}$ latitude/longitude grid boxes. The combined versions (HadCRUT3 and HadCRUT3v) take values from each component and weight the grid boxes where both occur (coastlines and islands). The weighting method is described in detail in Jones *et al.* (2001). Land **temperature** anomalies are infilled where more than four of the surrounding eight $5^{\circ} \times 5^{\circ}$ grid boxes are present, as discussed in Jones *et al.* (2001). Infilling doesn't take place when the box is ocean, except when it covered by sea ice based on 1961-90 average conditions.

How accurate are the hemispheric and global averages?

Annual values are approximately accurate to +/- 0.05°C (two standard errors) for the period since 1951. They are about four times as uncertain during the 1850s, with the accuracy improving gradually between 1860 and 1950 except for temporary deteriorations during data-sparse, wartime intervals. Estimating accuracy is a far from a trivial task as the individual grid-boxes are not independent of each other and the accuracy of each grid-box time series varies through time (although the variance adjustment has reduced this influence to a large extent). The issue is discussed extensively by Folland *et al.* (2001a,b) and Jones *et al.* (1997). Both Folland *et al.* (2001a,b) references extend discussion to the estimate of accuracy of trends in the global and hemispheric series, including the additional uncertainties related to homogeneity corrections.

In the hemispheric files averages are now given to a precision of three decimal places to enable seasonal values to be calculated to $\pm 0.01^{\circ}$ C. The extra precision implies no greater accuracy than two decimal places.

Why do global and hemispheric **temperature** anomalies differ from those quoted in the IPCC assessment and the media?

We have areally averaged grid-box **temperature** anomalies (using the HadCRUT3v dataset), with weighting according to the area of each 5° x 5° grid box, into hemispheric values; we then averaged these two values to create the global-average anomaly. However, the global and hemispheric anomalies used by IPCC and in the World Meteorological Organization and Met Office news releases were calculated using optimal averaging. This technique uses information on how temperatures at each location co-vary, to weight the data to take best account of areas where there are no observations at a given time. The method uses the same basic information (i.e. in future HadCRUT3v and subsequent improvements), along with the data-coverage and the measurement and sampling errors, to estimate uncertainties on the global and hemispheric average anomalies. The more elementary technique (used here) produces no estimates of uncertainties, but our results generally lie within the ranges estimated by optimum averaging. The constraint that the average be zero over 1961-90 in the optimal averages also adds a small offset compared to the other data described here.

The present optimal averages with annual uncertainties are <u>accessible from the **Hadley** Centre</u>. The data include values filtered to show decadal and longer-term variations and uncertainties. This replaces the IPCC 2001 version at the above site (see Parker *et al.* 2004). All other versions of global and hemispheric **temperature** anomalies are only steps to the IPCC series.

Why are values slightly different when I download an updated file a year later?

All the files on this page (except Absolute) will be updated on a monthly basis to include the latest month within about four weeks of its completion. Updating includes not just data for the last month but the addition of any late reports for up to approximately the last two years. In addition to this the method of variance adjustment (used for CRUTEM3v and HadCRUT3v) works on the anomalous temperatures relative to the underlying trend on an approximate 30-year timescale. Estimating this trend requires estimation of grid-box temperatures for years before the start of each record and after the end. With the addition of subsequent years, the underlying trend will alter slightly, changing the variance-adjusted values. Effects will be greatest on the last year of the record, but an influence can be evident for the last three to four years. Full details of the variance adjustment procedure are given in Jones *et al.* (2001). Approximately yearly, the optimally averaged values will also be updated to take account of such additional past information

See also

EPA-EF-005330

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 13 of 150

- CRU Information Sheet no. 1: Global Temperature Record
- <u>Climate Monitor Online</u> has month-by-month visualisations of gridded and hemispheric temperature.
- Todd Mitchell at JISAO also provides a NetCDF version of Land/Ocean grid.
- <u>CRUTEM2 and related datasets</u> will remain available in parallel for a while.
- Examples plots of CRU data using NCAR Command Language (NCL)
- Land Stations used by the Climatic Research Unit within CRUTEM3
- Farmer et al. 1989, "*Documenting and explaining recent global-mean temperature changes*" (Adobe Portable Document Format file) (17MB) final report to NERC contract GR3/6565.

Last updated: June 2008, Phil Jones & Mike Salmon (plus automatic updates for data)

This is Google's cache of <u>https://www.cru.uea.ac.uk/cru/people/briffa/yamal2000/</u>. It is a snapshot of the page as it appeared on Nov 5, 2009 23:13:40 GMT. The <u>current page</u> could have changed in the meantime. <u>Learn more</u>

These search terms are highlighted: the substantive implication of mcintyre's comment

Full version

<u> Climatic Research Unit</u> : <u>Staff</u> : <u>Keith Briffa</u>

The Yamal ring-width chronology of Briffa (2000)

My attention has been drawn to a comment by Steve McIntyre on the Climate Audit website relating to the pattern of radial tree growth displayed in the ring-width chronology "Yamal" that I first published in Briffa (2000). **The substantive** *implication* of McIntyre's comment (made explicitly in subsequent postings by others) is that the recent data that make up this chronology (i.e. the ring-width measurements from living trees) were purposely selected by me from among a larger available data set, specifically because they exhibited recent growth increases.

This is not the case. The Yamal tree-ring chronology (see also Briffa and Osborn 2002, Briffa et al. 2008) was based on the application of a tree-ring processing method applied to the same set of composite sub-fossil and living-tree ring-width measurements provided to me by Rashit Hantemirov and Stepan Shiyatov which forms the basis of a chronology they published (Hantemirov and Shiyatov 2002). In their work they traditionally applied a data processing method (corridor standardisation) that does not preserve evidence of long timescale growth changes. My application of the Regional Curve Standardisation method to these same data was intended to better represent the multi-decadal to centennial growth variations necessary to infer the longer-term variability in average summer temperatures in the Yamal region: to provide a direct comparison with the chronology produced by Hantemirov and Shiyatov.

These authors state that their data (derived mainly from measurements of relic wood dating back over more than 2,000 years) included 17 ring-width series derived from living trees that were between 200-400 years old. These recent data included measurements from at least 3 different locations in the Yamal region. In his piece, McIntyre replaces a number (12) of these original measurement series with more data (34 series) from a single location (not one of the above) within the Yamal region, at which the trees apparently do not show the same overall growth increase registered in our data.

The basis for McIntyre's selection of which of our (i.e. Hantemirov and Shiyatov's) data to exclude and which to use in replacement is not clear but his version of the chronology shows lower relative growth in recent decades than is displayed in my original chronology. He offers no justification for excluding the original data; and in one version of the chronology where he retains them, he appears to give them inappropriate low weights. I note that McIntyre qualifies the presentation of his version(s) of the chronology by reference to a number of valid points that require further investigation. Subsequent postings appear to pay no heed to these caveats. Whether the McIntyre version is any more robust a representation of regional tree growth in Yamal than my original, remains to be established.

My colleagues and I are working to develop methods that are capable of expressing robust evidence of climate changes using tree-ring data. We do not select tree-core samples based on comparison with climate data. Chronologies are constructed independently and are subsequently compared with climate data to measure the association and quantify the reliability of using the tree-ring data as a proxy for temperature variations.

We have not yet had a chance to explore the details of McIntyre's analysis or its implication for temperature reconstruction at Yamal but we have done considerably more analyses exploring chronology production and temperature calibration that have relevance to this issue but they are not yet published. I do not believe that McIntyre's preliminary post provides sufficient evidence to doubt the reality of unusually high summer temperatures in the last decades of the 20th century.

An expanded comment on the McIntyre posting is now available (27th October 2009).

EPA-EF-005332

file:///C//Documents%20and%20Settings/dhyland/Desktop/Yamal%20ring-width%20chronology%20of%20Briffa%20(2000).htm[2/23/2012 5:15:14 PM]

Yamal ring-width chronology of Briffa (2000)

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 15 of 150

K.R. Briffa 30 Sept 2009

- Briffa, K. R. 2000. Annual climate variability in the Holocene: interpreting the message of ancient trees. Quaternary Science Reviews **19**:87-105.
- Briffa, K. R., and T. J. Osborn. 2002. Paleoclimate Blowing hot and cold. Science 295:2227-2228.
- Briffa, K. R., V. V. Shishov, T. M. Melvin, E. A. Vaganov, H. Grudd, R. M. Hantemirov, M. Eronen, and M. M. Naurzbaev. 2008. Trends in recent temperature and radial tree growth spanning 2000 years across northwest Eurasia. Philosophical Transactions of the Royal Society B-Biological Sciences 363:2271-2284.
- Hantemirov, R. M., and S. G. Shiyatov. 2002. A continuous multimillennial ring-width chronology in Yamal, northwestern Siberia. Holocene **12**:717-726.

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 16 of 150

EPA-3132

Lesley Jantarasami/DC/USEPA/US 12/06/2009 06:46 PM To "Matthew Mitchell", Sue Eisenfeld cc William Perkins bcc

Subject LATE ADDITION for Vol 6

Hi Matt and Sue,

 (b)(5) Deliberative
 Could you

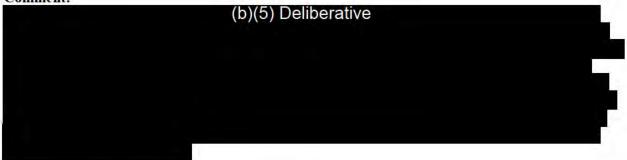
 make this comment/response the second to last comment in Section 6.2 - Forestry?
 Counters

 Comment:
 (b)(5) Deliberative

 Response:
 (b)(5) Deliberative

So it will go right before the comment that states:

Comment:



Please let me know if you have questions - thanks!!!

Lesley

Lesley Jantarasami US EPA, Climate Change Division Climate Science & Impacts Branch 202.343.9929

EPA-EF-005334

202.343.2202 (fax) Jantarasami.Lesley@epa.gov

| "Matthew | Mitchell" | Hi Lesley For the first one: | 12/06/2009 06:11:58 PM | | | |
|--|------------------------------------|---|------------------------|--|--|--|
| From: To: Cc: Date: Subject: | Lesley Ja William F 12/06/20 | v Mitchell" <matthew.mitchell@erg.com antarasami/DC/USEPA/US@EPA Perkins/DC/USEPA/US@EPA 09 06:11 PM reference issue</matthew.mitchell@erg.com | > | | | |
| Hi Loglov- | | | | | | |
| 1 | Hi Lesley For the first one: | | | | | |

Don't ask me to diagram this sentence! But I say it should be (b)(5) Deliberative

For the second:

Those commas aren't necessary, but they're not really wrong either. I'd actually leave them in for clarity.

Matthew N. Mitchell
ERG
110 Hartwell Avenue
Lexington, MA 02421-3136
(p) 781-674-7331
(f) 781-674-2851
>>> <Jantarasami.Lesley@epamail.epa.gov> 12/06/09 5:29 PM >>>
Hi Matt,

Two quick questions about the following two sentences that were just added to Vol 11.

| Grammatically correct? | (b)(5) Deliberative | |
|-----------------------------|---------------------------|--|
| Aren't these commas unneces | sary? (b)(5) Deliberative | |
| | | |
| Thanks, Lesley | | |
| > From: > | | |

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 18 of 150

| "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> | |
|---|---------------|
| > To: > | |
| > William Perkins/DC/USEPA/US@EPA, "Sue Eisenfeld" <sue.eisen ></sue.eisen | feld@erg.com> |
| > Cc: > | |
| > Lesley Jantarasami/DC/USEPA/US@EPA > | |
| > Date: > | |
| > 12/06/2009 04:14 PM > | |
| > Subject: > | |
| > Re: Fw: reference issue | |
| - | |

I do, I think, recommend using the

(b)(5) Deliberative

(b)(5) Deliberative

(b)(5) Deliberative

Matthew N. Mitchell
ERG
110 Hartwell Avenue
Lexington, MA 02421-3136
(p) 781-674-7331
(f) 781-674-2851
>>> <Perkins.William@epamail.epa.gov> 12/06/09 3:57 PM >>>

Matt and Sue,

Please see the correspondence chain below. If you agree with the approach of listing the author as the one in the most recent version, then could you please send us a properly formatted citation that we can use across all the volumes?

If you agree with the approach, please send the language to Lesley and I. If you disagree based on convention, please send us a suggestion for action. Please call Lesley with any questions on this specific issue at 202.343.9929.

Thank you.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (0) 202.343.9460 (F) 202.343.2202 (C) (b)(6) Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 03:53 PM ____ ____ From: Lesley Jantarasami/DC/USEPA/US To: William Perkins/DC/USEPA/US@EPA

Date: 12/06/2009 03:13 PM

Subject: Fw: reference issue

What do you think about getting ERG's take on this issue? Or at least having them send us a properly formatted citation with just one author

| | (b)(5) Deliberative | |
|------------------------------------|---|----------------|
| | (b)(5) Deliberative | |
| | | |
| Having said that, reference the | I think that the best thing to (b)(5) Deliberative | do would be to |
| Specifically, the | (b)(5) Deliberative | |
| | | |

Marcus and I noticed that the Vol. 4 reference list includes the following:

| (b)(5) Deliberative |
|---------------------|
| |
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| |
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[attachment "EPA-HQ-OAR-2009-0171-4035.1.pdf" deleted by Marcus Sarofim/DC/USEPA/US]

Dina Kruger/DC/USEPA/US 12/06/2009 06:54 PM To Jason Samenow, Ben DeAngelo

cc Rona Birnbaum

bcc

Subject Popultion control

| There is a comment | (b)(5) Deliberative |
|---|--|
| | I'm attaching it. |
| Jason, can you confirm T welcome to.) | (b)(5) Deliberative hanks - (and edits/improvements to the language of the response are |
| Dina (b)(5) Deliberative | |
| Dina Kruger Director, Climate Change Divisior USEPA | n |
| 202-343-9039 (phone) 202-343-2290 (fax) | |

| Ben DeAngelo/DC/USEPA/US | То | Dina Kruger, Rona Birnbaum, Carol Holmes, John Hannon |
|--------------------------|---------|---|
| 12/06/2009 06:56 PM | cc | Lesley Jantarasami, Bill Perkins |
| | bcc | |
| | Subject | revised vol 10 |

This version incorporates and accepts John's and Carol's comments. Some track changes left here to note.

There comments in here ID'd to move to vol 11.

| Comment | (b)(5) Deliberative | |
|-----------------------|------------------------------------|--|
| | (b)(5) Deliberative | |
| RTC draft Volume 10 C | Cause or Contribute 120609 BJD.doc | |

| Carol Holmes/DC/USEPA/US | То | Ben DeAngelo |
|--|-------------|--|
| 12/06/2009 07:14 PM | cc | Dina Kruger, John Hannon, Lesley Jantarasami, Bill Perkins, Rona Birnbaum |
| | bcc | |
| | Subject | Re: revised vol 10 |
| Thanks Ben. | | |
| Re 10-3 did you ever respond to my co | mment bal | lloon? (b)(5) Deliberative |
| re 10-5 are revised, | | (b)(5) Deliberative |
| | about: | (b)(d) Deliberative |
| (b) | (5) Delib | perative |
| | | |
| | | |
| Check for headings being changed to Vo | lume 10 fro | om 11 (e.g., |
| | | |
| | |) |
| Agree moving | (b)(5) | Deliberative . |
| 10-16 OK. Need to underline "Comme | nt: (10-16) | n |
| 10-17 did you mean to refer to 10-16? | Something | g I like (b)(5) Deliberative |
| | | |
| 10-18 OK | | |
| 10-20 still don't understand (b)(5) | Deliberativ | re la |
| THANKS | | |
| Confidential communication for internal d enforcement privilege; Do not distribute o | | ns only; Attorney-client, attorney work product and/or A or DOJ |
| Carol S. Holmes Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave, NW (MC 2344A) Washington, DC 20460 Phone (202) 564-8709 Fax (202) 564-5603 |) | |
| | | |
| Ben DeAngelo This version incor | porates an | d accepts 12/06/2009 06:56:35 PM |

From: Ben DeAngelo/DC/USEPA/US To: Dina Kruger/DC/USEPA/US@EPA, Rona Birnbaum/DC/USEPA/US@EPA, Carol

EPA-3135

| | Holmes/DC/USEPA/US@EPA, John Hannon/DC/USEPA/US@EPA |
|----------|--|
| Cc: | Lesley Jantarasami/DC/USEPA/US@EPA, Bill Perkins <perkins.william@epa.gov></perkins.william@epa.gov> |
| Date: | 12/06/2009 06:56 PM |
| Subject: | revised vol 10 |

This version incorporates and accepts John's and Carol's comments. Some track changes left here to note.

There comments in here ID'd to move to vol 11.

Comment

(b)(5) Deliberative

[attachment "RTC draft Volume 10 Cause or Contribute 120609 BJD.doc" deleted by Carol Holmes/DC/USEPA/US]

 "Matthew Mitchell"
 To Lesley Jantarasami, William Perkins

 <Matthew.Mitchell@erg.com>
 cc "Mae Thomas", "Sue Eisenfeld"

 12/06/2009 07:19 PM
 bcc

Subject Volume 6, second round

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781 (b)(5) Deliberative

vol 6 second-round edited.doc

| William | То | "Matthew Mitchell" |
|---------------------|---------|---|
| Perkins/DC/USEPA/US | сс | Lesley Jantarasami, "Mae Thomas", "Sue Eisenfeld" |
| 12/06/2009 07:22 PM | bcc | |
| | Subject | Re: Volume 6, second round |

Matt,

Thank you. I spoke to Mae a few minutes ago, and I am going to send you new references that we have added since final copyedit in "batches" throughout the evening. Also, we'll paste in the new forewords, please don't worry about that for 1 either.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

| "Matthew Mitchell" | | Attached please find Volume 6. I ha | 12/06/2009 07:20:40 PM |
|--------------------|---|---|------------------------|
| | | | |
| From: | "Matthew | Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> | |
| To: | Lesley Ja | ntarasami/DC/USEPA/US@EPA, William Perkin | s/DC/USEPA/US@EPA |
| Cc: | "Mae Thomas" <mae.thomas@erg.com>, "Sue Eisenfeld" <sue.eisenfeld@erg.com></sue.eisenfeld@erg.com></mae.thomas@erg.com> | | |
| Date: | 12/06/200 | 09 07:20 PM | |
| Subject: | Volume 6 | , second round | |

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 [attachment "vol 6 second-round edited.doc" deleted by William Perkins/DC/USEPA/US]

Carol Holmes/DC/USEPA/US 12/06/2009 07:28 PM To John Hannon

cc Ben DeAngelo, Dina Kruger, Lesley Jantarasami, Bill Perkins, Rona Birnbaum

bcc

Subject Re: revised vol 10

Everyone -- Ben and I walked through my comments and we are DONE!!! :)

Confidential communication for internal deliberations only; Attorney-client, attorney work product and/or enforcement privilege; Do not distribute outside EPA or DOJ

Carol S. Holmes Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave, NW (MC 2344A) Washington, DC 20460 Phone (202) 564-8709 Fax (202) 564-5603

| John Hanno | on | no comments (and I like saying that!) | 12/06/2009 07:03:06 PM |
|-------------------|-------------------|---|------------------------|
| From: To: | | lannon/DC/USEPA/US eAngelo/DC/USEPA/US@EPA | |
| Cc: | Carol I Jantar | Holmes/DC/USEPA/US@EPA, Dina Kruger/DC/ asami/DC/USEPA/US@EPA, Bill Perkins <perki hum/DC/USEPA/US@EPA</perki | |
| Date: Subject: | 12/06/ | 2009 07:03 PM vised vol 10 | |

no comments (and I like saying that!).

John Hannon Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave. NW (MC 2344A) Washington, D.C. 20460 Phone (202) 564-5563 Fax (202 564-5603

| Ben DeAr | ngelo | This version incorporates and accepts | 12/06/2009 06:56:35 PM |
|-------------------|-------|---|--------------------------|
| From: | | DeAngelo/DC/USEPA/US | |
| To: | Holm | Kruger/DC/USEPA/US@EPA, Rona Birnbaum/DC/ es/DC/USEPA/US@EPA, John Hannon/DC/USEPA | VUS@EPA |
| Cc: | | y Jantarasami/DC/USEPA/US@EPA, Bill Perkins < | perkins.william@epa.gov> |
| Date: Subject: | | 6/2009 06:56 PM ed vol 10 | |

This version incorporates and accepts John's and Carol's comments. Some track changes left here to note.

There comments in here ID'd to move to vol 11.

Comment

(b)(5) Deliberative

[attachment "RTC draft Volume 10 Cause or Contribute 120609 BJD.doc" deleted by John Hannon/DC/USEPA/US]

"Matthew Mitchell"

Lesley Jantarasami/DC/USEPA/US 12/06/2009 07:31 PM bcc Subject Re: Volume 6, second round

Thanks, Matt. Here is reference. Could you format it correctly for me? I don't know the conventions we're using, and don't want to mess it up. Thanks!

| | (b)(5) [| Deliberative | |
|--|----------|--------------|--|
| | | | |
| | | | |

Attached please find Volume 6. I ha... 12/06/2009 07:20:41 PM

| From: | "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> |
|----------|---|
| To: | Lesley Jantarasami/DC/USEPA/US@ĒPA, William Perkins/DC/USEPA/US@EPA |
| Cc: | "Mae Thomas" <mae.thomas@erg.com>, "Sue Eisenfeld" <sue.eisenfeld@erg.com></sue.eisenfeld@erg.com></mae.thomas@erg.com> |
| Date: | 12/06/2009 07:20 PM |
| Subject: | Volume 6, second round |

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 [attachment "vol 6 second-round edited.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

| William | То | "Mae Thomas" |
|---------------------|---------|---|
| Perkins/DC/USEPA/US | СС | Lesley Jantarasami, "Matthew Mitchell", "Sue Eisenfeld" |
| 12/06/2009 07:35 PM | bcc | |
| | Subject | Re: Volume 6, second round |

Mae,

Sorry not being clearer; no. Only goal here is to be sure that the docket is correct, and that you have all the RTC references, so that in the end the copyrighted stuff given to the docket = (RTC references + journals on ftp site).

To that end, I'll send you batches of new refs as they arrive. Only have a couple so far.

Please call me if for whatever reason that is not clear (problem is definitely on my end if that is the case). Thank you.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

| "Mae Tho | mas" Bill, when you and I talked I was compl | 12/06/2009 07:32:29 PI |
|----------|--|--|
| _ | | |
| From: | "Mae Thomas" <mae.thomas@erg.com></mae.thomas@erg.com> | |
| To: | William Perkins/DC/USEPA/US@EPA, "Matthew Mitchell" | <pre>' <matthew.mitchell@erg.com></matthew.mitchell@erg.com></pre> |
| Cc: | Lesley Jantarasami/DC/USEPA/US@EPA, "Sue Eisenfeld | |
| Date: | 12/06/2009 07:32 PM | |
| Subject: | Re: Volume 6, second round | |

Bill, when you and I talked I was completely focused on the docket list. Are you saying you want us to edit the volumes with the new references too?

>>> <Perkins.William@epamail.epa.gov> 12/6/2009 7:22 PM >>>
Matt,

Thank you. I spoke to Mae a few minutes ago, and I am going to send you new references that we have added since final copyedit in "batches" throughout the evening. Also, we'll paste in the new forewords, please don't worry about that for 1 either.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (0) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

From: "Matthew Mitchell" <Matthew.Mitchell@erg.com>

To: Lesley Jantarasami/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA

Cc: "Mae Thomas" <Mae.Thomas@erg.com>, "Sue Eisenfeld" <Sue.Eisenfeld@erg.com>

Date: 12/06/2009 07:20 PM

Subject: Volume 6, second round

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 [attachment "vol 6 second-round edited.doc" deleted by William Perkins/DC/USEPA/US]

Ben DeAngelo/DC/USEPA/US 12/06/2009 07:41 PM To William Perkins cc Rona Birnbaum

bcc

Subject vol 9 -- need to merge these 2

Copyedited from ERG received yesterday, and new version with all comments incorporated since yesterday. I accepted all track changes in ERG's version.

(b)(5) Deliberative

(b)(5) Deliberative

RTC draft Volume 9 120609+DINA.doc vol 9 first-round edited.doc

Benjamin J. DeAngelo Climate Change Division, Office of Atmospheric Programs U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW (6207J) Washington, DC 20460

Tel: +1 202-343-9107 Fax: +1 202-343-2202 deangelo.ben@epa.gov

"Matthew Mitchell" <Matthew.Mitchell@erg.com> 12/06/2009 08:03 PM To Lesley Jantarasami cc William Perkins bcc

Subject Re: Volume 6, second round

Absolutely! Here goes:

(b)(5) Deliberative

(b)(5) Deliberative

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 >>> <Jantarasami.Lesley@epamail.epa.gov> 12/06/09 7:31 PM >>> Thanks, Matt. Here is reference. Could you format it correctly for me? I don't know the conventions we're using, and don't want to mess it up. Thanks!

| (b)(5) Deliberative | |
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| From: | |
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| > | |
| "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> | |
| | |
| > | |
| | |
| To: | |
| > | |
| > | |
| | |
| Lesley Jantarasami/DC/USEPA/US@EPA, William Perkins/DC/USEPA/ | US@EPA |
| | |
| > | |

-----| |----> Cc: |----> >-----_____| |"Mae Thomas" <Mae.Thomas@erg.com>, "Sue Eisenfeld" <Sue.Eisenfeld@erg.com> >-----_____ ----> Date: ----> >-----_____ 12/06/2009 07:20 PM >----------| ----> Subject: |----> >-----_____ Volume 6, second round >-----------|

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 [attachment "vol 6 second-round edited.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

| William Perkins/DC/USEPA/US 12/06/2009 08:05 PM | | Matthew Mitchell, Sue Eisenfeld Mae Thomas, Ben DeAngelo |
|---|---------|---|
| | Subject | Fw: vol 9 need to merge these 2 |

Matt and Sue,

As discussed, please help in preserving your copyedits and the edits of others in Vol 9. Ben describes this in detail below. Also, please advise if this is not possible or you recommend a different course of action.

Point of contact for this specific task is Ben DeAngelo, CCed, 202.343.9107.

Thank you.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 08:04 PM -----

| From: | Ben DeAngelo/DC/USEPA/US |
|----------|---------------------------------|
| To: | William Perkins/DC/USEPA/US@EPA |
| Date: | 12/06/2009 07:53 PM |
| Subject: | Fw: vol 9 need to merge these 2 |

Here are the copyedited from ERG received yesterday, and new version with all comments incorporated since yesterday. I accepted all track changes in ERG's version.

I think the main difference is that since yesterday's ERG version a new comment/response has been added, on p. 27 of today's version.

Hopefully these docs can be merged to keep all the formatting already done in the ERG version, but to ensure all new language and edits from today's version are retained.

Pls let us know if this is workable, or if (hopefully not) copyediting today's from scratch is a safer bet.

(b)(5) Deliberative (b)(5) Deliberative

vol 9 first-round edited.doc RTC draft Volume 9 120609+DINA.doc

Benjamin J. DeAngelo Climate Change Division, Office of Atmospheric Programs U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW (6207J) Washington, DC 20460

Tel: +1 202-343-9107 Fax: +1 202-343-2202 deangelo.ben@epa.gov

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 37 of 150

| William To Mae Thomas Perkins/DC/USEPA/US cc Matthew Mitchell, Sue Eisenfeld 12/06/2009 08:07 PM bcc Lesley Jantarasami | PA-3144 | | | |
|---|------------|---------------------|-----------|---|
| Subject Batch 1: Additional or fixed (if ERG had questions) referen- since copyediting for docketing | P | Perkins/DC/USEPA/US | cc bcc | Matthew Mitchell, Sue Eisenfeld Lesley Jantarasami Batch 1: Additional or fixed (if ERG had questions) references |
| Mae, | ae, | | | |
| As discussed; thank you. | discussed; | l; thank you. | | |
| Cheers, | neers, | | | |
| Bill | 1 | | | |
| Volume 3: | lume 3: | | | |

| | (b)(5) Deliberative | |
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| | | |
| Volume 6: | | |
| | (b)(5) Deliberative | |
| | | |
| | | |
| Bill Perkins | | |

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Ben DeAngelo/DC/USEPA/US 12/06/2009 08:09 PM To Lesley Jantarasami, Carol Holmes

cc bcc

Subject here are 3 comments to be moved from vol 10 to vol 11



moving from 10 to 11.doc

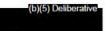
Ben DeAngelo/DC/USEPA/US 12/06/2009 08:14 PM To Dina Kruger

cc Carol Holmes, John Hannon, Rona Birnbaum, William Perkins, Lesley Jantarasami

bcc

Subject Dina: if you haven't yet started with 10 use this version

I moved out some comments to vol 11 and did some re-ordering and did re-numbering.



RTC draft Volume 10 Cause or Contribute 120609 BJD.doc

| - | | | |
|---|---------------------|---------|---|
| | Lesley Jantarasami | То | |
| | 04/01/2010 03:51 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\ljantara\l Documents\Endangerment\02_Comments and |

a∖My nd Responses/Vol 6 stuff/vol 6 second-round edited.doc

(b)(5) Deliberative

- vol 6 second-round edited.doc

| "Matthew Mitchell" <matthew.mitchell@erg.com> 12/06/2009 08:24 PM</matthew.mitchell@erg.com> | | William Perkins, "Sue Eisenfeld" Jeremy Martinich, "Mae Thomas" |
|---|---------|--|
| | Subject | Re: Do you have an ETA on Volume 1? Thank you (eom) |

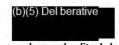
The ETA is, in fact, right now--file is attached.

After this, I need to edit that revised foreword and send it back to Lesley; next I'll tackle those third-round revisions to Volume 2.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 >>> <Perkins.William@epamail.epa.gov> 12/06/09 8:11 PM >>>

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202

(C) (b)(6)



vol 1 second-round edited.doc

| Lesley | То | "Matthew Mitchell" |
|-------------------------|---------|------------------------|
| Jantarasami/DC/USEPA/US | cc | |
| 12/06/2009 08:42 PM | bcc | |
| | · · · · | Charles States and the |

Subject note regarding vol 9

Thanks, Matt. Also, on vol 9, just wanted to make you aware that the Table of Contents is definitely wrong. As you go through this one again, could you update the section/subsection titles and numbers in the TOC?

Thanks!

Lesley

Lesley Jantarasami US EPA, Climate Change Division Climate Science & Impacts Branch 202.343.9929 202.343.2202 (fax) Jantarasami.Lesley@epa.gov

| "Matthew | v Mitchell" | Absolutely! Here goes: (b)(5) Deliberative | 12/06/2009 08:04:30 PM |
|---------------------|-----------------------|--|------------------------|
| From: To: Cc: | Lesley J William I | v Mitchell" <matthew.mitchell@erg.com> antarasami/DC/USEPA/US@EPA Perkins/DC/USEPA/US@EPA</matthew.mitchell@erg.com> | |
| Date: Subject: | | 09 08:04 PM me 6, second round | |

Absolutely! Here goes:

(b)(5) Deliberative

| Matthew N. Mitchell |
|---|
| ERG |
| 110 Hartwell Avenue |
| Lexington, MA 02421-3136 |
| (p) 781-674-7331 |
| (f) 781-674-2851 |
| >>> <jantarasami.lesley@epamail.epa.gov> 12/06/09 7:31 PM >>></jantarasami.lesley@epamail.epa.gov> |
| Thanks, Matt. Here is reference. Could you format it correctly for me? |
| I don't know the conventions we're using, and don't want to mess it up. |
| Thanks! |

(b)(5) Deliberative

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 43 of 150

(b)(5) Deliberative

| > From: > | |
|---|------|
| "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> | |
| > To: > | |
| <pre>Lesley Jantarasami/DC/USEPA/US@EPA, William Perkins/DC/USEPA ></pre> | |
| > Cc: > | |
| <pre> "Mae Thomas" <mae.thomas@erg.com>, "Sue Eisenfeld" <sue.eisen ></sue.eisen </mae.thomas@erg.com></pre> | |
| > Date: > | |
| > 12/06/2009 07:20 PM | |
| > Subject: > | |
| Volume 6, second round | |

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 44 of 150

Attached please find Volume 6. I haven't had time to attach and edit Lesley's new foreword (doing that next); I have inserted Lesley's comment that needed adding. Note that it seems to cite a new reference, one we don't have.

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 [attachment "vol 6 second-round edited.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

| Ben DeAngelo | То | |
|---------------------|---------|---|
| 04/06/2010 04:56 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\moving from 10 to 11.doc |

(b)(5) Deliberative

- moving from 10 to 11.doc

Lesley Jantarasami/DC/USEPA/US 12/06/2009 09:26 PM To William Perkins

cc Ben DeAngelo, David Chalmers, Jason Samenow, Jeremy Martinich, Marcus Sarofim, Rona Birnbaum

bcc

Subject Clean, edited, newest version of the Foreword!

Please replace your Forewords with this one.

(b)(5) Deliberative

CORRECT Revised Foreword CLEAN.doc

Lesley

Lesley Jantarasami US EPA, Climate Change Division Climate Science & Impacts Branch 202.343.9929 202.343.2202 (fax) Jantarasami.Lesley@epa.gov

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 47 of 150

EPA-3152

Carol Holmes/DC/USEPA/US 12/06/2009 09:33 PM To Lesley Jantarasami

cc Ben DeAngelo

bcc

Subject Re: here are 3 comments to be moved from vol 10 to vol 11

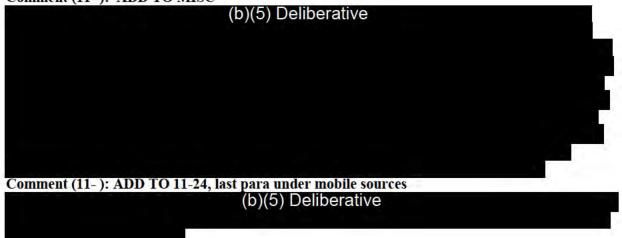
No. I think the first two comment summaries

(b)(5) Deliberative

Comment (11-): ADD TO MISC



Comment (11-): ADD TO MISC



Confidential communication for internal deliberations only; Attorney-client, attorney work product and/or

enforcement privilege; Do not distribute outside EPA or DOJ

Carol S. Holmes Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave, NW (MC 2344A) Washington, DC 20460 Phone (202) 564-8709 Fax (202) 564-5603

| Lesley Ja | ntarasami | Just want to confirm that you mean | 12/06/2009 09:21:57 PM |
|--------------------------|--------------|--|---|
| From: | Lesley Ja | ntarasami/DC/USEPA/US | |
| To: | Ben DeAr | gelo/DC/USEPA/US | |
| Cc: | Carol Holi | nes/DC/USEPA/US@EPA | |
| Date: | 12/06/200 | 9 09:21 PM | |
| Subject: | Re: here a | are 3 comments to be moved from vol 10 to vol 1 | 1 |
| Just want to | confirm that | you mean these to go into |)(5) Deliberative |
| Just want to Ben DeAr | | you mean these to go into a set of the set |)(5) Deliberative 12/06/2009 08:09:46 PM |

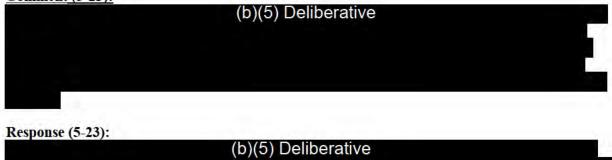
[attachment "moving from 10 to 11.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 49 of 150

EPA-3153

Jason Samenow/DC/USEPA/US 12/06/2009 09:39 PM To Jeremy Martinich cc bcc Subject health iqa comment

Comment (5-23):



| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:42 PM | сс | |
| | bcc | |
| | Subject | UPLOAD F:\Endangerment\02_Comments and Responses\Stock Language\ed-CORRECT Revised Foreword.doc |

(b)(5) Deliberative

- ed-CORRECT Revised Foreword.doc

| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:49 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Stock Language\ed-CORRECT Revised Foreword.doc |

(b)(5) Deliberative

- ed-CORRECT Revised Foreword.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:42 PM | сс | |
| | bcc | |
| | Subject | UPLOAD F:\Endangerment\02_Comments and Responses\Stock Language\CORRECT Revised Foreword CLEAN.doc |

(b)(5) Deliberative

- CORRECT Revised Foreword CLEAN.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:49 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Stock Language\CORRECT Revised Foreword CLEAN.doc |
| | | |

(b)(5) Deliberative

- CORRECT Revised Foreword CLEAN.doc

| | Ben DeAngelo BrianB Cook, Carol Holmes, Leif Hockstad, Dina Kruger, Rona Birnbaum |
|---------|---|
| Subject | Re: could you help with this comment? Why not IPCC emission estimates |

Ben - the wireless in my laptop died and I have to do this on my BB, so I can't give you line edits.

| -2nd para: note that (b)(5) Deliberative (b)(5) Deliberative -note that (b)(5) Deliberative | |
|--|---|
| Some language was copied from my email before and isn't really official-sounding (b)(5) Deliberative (b)(5) Deliberative | 1 |
| Argument #3 | |
| (b)(5) Deliberative | |

Bill Irving

Sent by EPA Wireless E-Mail Services. Ben DeAngelo

----- Original Message -----From: Ben DeAngelo Sent: 12/05/2009 06:52 PM EST To: Bill Irving Cc: BrianB Cook; Carol Holmes; Leif Hockstad; Dina Kruger; Rona Birnbaum Subject: Re: could you help with this comment? Why not IPCC emission estimates Dim the factor of the provide the providet the provid

Bill, thanks for the previous response. If you have any time this eve/tomorrow to take a second look at this. Here's the latest version of his comment/response building off what you provided:



(b)(5) Deliberative

Bill Irving Ben follow-up points for you specifically... 11/25/2009 04:52:29 PM From: Bill Irving/DC/USEPA/US To: BrianB Cook/DC/USEPA/US@EPA Cc: Ben DeAngelo/DC/USEPA/US@EPA, Leif Hockstad/DC/USEPA/US@EPA, Carol Holmes/DC/USEPA/US@EPA Date: 11/25/2009 04:52 PM

Re: could you help with this comment? Why not IPCC emission estimates

Ben

Subject:

follow-up points for you specifically to consider if they are useful to respond to Carol's question, because I'm not sure that our answer addresses it completely. (b)(5) Deliberative

| 1. | (b)(5) Deliberative |
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Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 56 of 150

| 2. | (b)(5) Deliberative | |
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| | | |
| | | |
| 3. | (b)(5) Deliberative | |
| | | |

Leif should probably check this over as well.

Bill

Chief - Program Integration Branch, Climate Change Division , USEPA tel +1 202 343-9065 - mobile +1 202 341 3384

| BrianB Cook | Thanks for your feedback Carol - I hop | 11/25/2009 02:50:14 PM |
|---------------------|---|------------------------|
| To: Cc: Date: | BrianB Cook/DC/USEPA/US Carol Holmes/DC/USEPA/US@EPA Ben DeAngelo/DC/USEPA/US@EPA, Bill Irving/DC/USE Hockstad/DC/USEPA/US@EPA 11/25/2009 02:50 PM Re: could you help with this comment? Why not IPCC er | - |

Thanks for your feedback Carol - I hope this response is better.

Ben, I'm not sure how you wanted to incorporate Carol's 2nd suggestion, I just added a sentence at the end of the response but that should definitely be reviewed.

- Brian

Response (10-15):



Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 57 of 150

| | (b)(5) Deliberative |
|--|--|
| | |
| | |
| Carol Holme | s Hey guys (b)(5) Deliberative 11/25/2009 12:58:07 PM |
| From: To: Cc: Date: Subject: | Carol Holmes/DC/USEPA/US BrianB Cook/DC/USEPA/US@EPA Ben DeAngelo/DC/USEPA/US@EPA, Bill Irving/DC/USEPA/US@EPA, Leif Hockstad/DC/USEPA/US@EPA 11/25/2009 12:58 PM Re: could you help with this comment? Why not IPCC emission estimates |
| Hey guys - | (b)(5) Deliberative |
| ney guys - | |
| | (b)(5) Deliberative |
| 1. 2. | (b)(5) Deliberative (b)(5) Deliberative |
| THANKS | |
| | nmunication for internal deliberations only; Attorney-client, attorney work product and/or vilege; Do not distribute outside EPA or DOJ |
| | al Counsel ntal Protection Agency nia Ave, NW (MC 2344A) \$ 20460 1-8709 |
| BrianB Cook | Hey Ben - Leif is out the rest of this we 11/25/2009 09:38:28 AM |
| From: To: Cc: | BrianB Cook/DC/USEPA/US Ben DeAngelo/DC/USEPA/US@EPA Bill Irving/DC/USEPA/US@EPA, Carol Holmes/DC/USEPA/US@EPA, Leif Hockstad/DC/USEPA/US@EPA |

Hey Ben - Leif is out the rest of this week, but I think this updated response should be sufficient. Let me know if you think I should add more to it.

Re: could you help with this comment? Why not IPCC emission estimates

11/25/2009 09:38 AM

Date:

Subject:

- Brian

Response (10-15):

| | (b)(5) Deliberative | |
|--------------|--------------------------------------|------------------------|
| | 1 | |
| Ben DeAngelo | Comment (10-15): (b)(5) Deliberative | 11/24/2009 09:25:39 PM |

| Date: Subject: | 11/24/2009 09:25 PM could you help with this comment? Why not IPCC emission estimates |
|-------------------|--|
| Data | Holmes/DC/USEPA/US@EPA |
| Cc: | Bill Irving/DC/USEPA/US@EPA, BrianB Cook/DC/USEPA/US@EPA, Carol |
| To: | Leif Hockstad/DC/USEPA/US@EPA |
| From: | Ben DeAngelo/DC/USEPA/US |

Comment (10-15):

(b)(5) Deliberative

Response (10-15):

| | (b)(5) Deliberative | |
|---------------------------------------|---------------------|--|
| | | |
| · · · · · · · · · · · · · · · · · · · | | |
| | | |

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:51 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\RTC draft Volume 6 Combined 12-06-09 + DINA.doc |

(b)(5) Deliberative

- RTC draft Volume 6 Combined 12-06-09 + DINA.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:51 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\RTC draft Volume 6 Forestry Only 12-06-09 -jh1206.doc |

(b)(5) Deliberative

- RTC draft Volume 6 Forestry Only 12-06-09 -jh1206.doc

| ••• | | | |
|-----|---------------------|---------|--|
| | Lesley Jantarasami | То | |
| | 04/01/2010 03:52 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 9 and 12 stuff\RTC draft Final Volume 11 12-06-09.doc |

(b)(5) Deliberative

- RTC draft Final Volume 11 12-06-09.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 62 of 150

EPA-3162

| Jeremy | То | Rona Birnbaum |
|-----------------------|---------|------------------------------------|
| Martinich/DC/USEPA/US | cc | |
| 12/06/2009 10:41 PM | bcc | |
| | Subject | Re: you got this in earlier-right? |

yes, got it.

Jeremy Martinich USEPA, Climate Change Division 202-343-9871

| Rona Birnb | baum Forwarded by Rona Birnbaum/DC | C/ 12/06/2009 10:35:09 PM |
|-----------------------------------|--|---------------------------|
| From: To: Date: Subject: | Rona Birnbaum/DC/USEPA/US Jeremy Martinich/DC/USEPA/US@EPA 12/06/2009 10:35 PM you got this in earlier-right? | |

----- Forwarded by Rona Birnbaum/DC/USEPA/US on 12/06/2009 10:35 PM -----

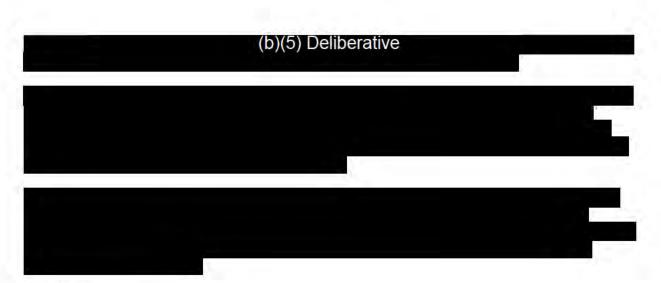
| From: | Dina Kruger/DC/USEPA/US |
|----------|---|
| To: | Jeremy Martinich/DC/USEPA/US@EPA, Rona Birnbaum/DC/USEPA/US@EPA |
| Cc: | Jason Samenow/DC/USEPA/US@EPA |
| Date: | 12/06/2009 06:13 PM |
| Subject: | |

This is good - my edits to the blue part are capitalized. (IPCC was already capitalized...)

Response (1-11):

(b)(5) Deliberative

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 63 of 150



Dina Kruger Director, Climate Change Division USEPA

202-343-9039 (phone) 202-343-2290 (fax)

 Ben DeAngelo/DC/USEPA/US
 To
 William Perkins

 12/06/2009 11:04 PM
 cc
 Lesley Jantarasami, Rona Birnbaum

 bcc
 bcc

Subject vol 10 complete

I made all final edits. Carol, John, and Dina are signed off on this (and Rona, incorporated last comments I just got from Bill I.). Incorporated foreword from Lesley.

I added page numbers to this very short table of contents, though someone or ERG may want to make the look consistent across volumes if there's time.

At some point, the "Draft, deliberative..." headers should be taken off all volumes.

Let me know if I need to clarify anything. Thanks!

-Ben

Benjamin J. DeAngelo Climate Change Division, Office of Atmospheric Programs U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW (6207J) Washington, DC 20460

Tel: +1 202-343-9107 Fax: +1 202-343-2202 <u>deangelo.ben@epa.gov</u> -----William Perkins/DC/USEPA/US wrote: -----

To: Jason Samenow/DC/USEPA/US@EPA From: William Perkins/DC/USEPA/US Date: 12/06/2009 07:12PM cc: Ben DeAngelo/DC/USEPA/US@EPA, David Chalmers/DC/USEPA/US@EPA, Jeremy Martinich/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Marcus Sarofim/DC/USEPA/US@EPA, Rona Birnbaum/DC/USEPA/US@EPA Subject: Re: Apologies - I messed up with version

All,

Sorry if this is redundant, but I believe that what Rona noted was that ERG is currently copyediting a NEW version of the foreword (in fact, Lesley just sent that to ERG) to fix the capitalization/punctuation issues and then Rona would send around to everyone a NEW version of the Foreword to paste in their Volumes. So no one needs to edit their Foreword, in fact, you can just delete the text for now to remind you to paste in the new one when Rona sends it.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Jason Samenow---12/06/2009 07:08:01 PM---note-- in the forward in Vol 5 I had, proposed findings were NOT capitalized contrary to the guidanc

From: Jason Samenow/DC/USEPA/US

- To: Rona Birnbaum/DC/USEPA/US@EPA
- Cc: Ben DeAngelo/DC/USEPA/US@EPA, David Chalmers/DC/USEPA/US@EPA, Jeremy Martinich/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Marcus Sarofim/DC/USEPA/US@EPA, Rona Birnbaum/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA

Date: 12/06/2009 07:08 PM

Subject: Re: Apologies - I messed up with version

note-- in the forward in Vol 5 I had, proposed findings were NOT capitalized contrary to the guidance bill just sent around. So that should be a universal change for the Forewards.

Rona Birnbaum---12/06/2009 06:59:33 PM---so sorry, I grabbed the Foreword that was a few hours earlier than the one that included a few other

- From: Rona Birnbaum/DC/USEPA/US
- To: Rona Birnbaum/DC/USEPA/US@EPA
- Cc: Ben DeAngelo/DC/USEPA/US@EPA, David Chalmers/DC/USEPA/US@EPA, Jason Samenow/DC/USEPA/US@EPA, Jeremy Martinich/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Marcus Sarofim/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA

Date: 12/06/2009 06:59 PM

Subject: Apologies - I messed up with version

so sorry, I grabbed the Foreword that was a few hours earlier than the one that included a few other important changes to the Foreword. Bill, Lesley and I just agreed that the Foreword needs to go to ERG anyway. So, please expect to get ONE more and FINAL (I swear) version of the Foreword from either Lesley or me this evening after ERG edits. That version will have all of the changes just made in it. Thanks and sorry about that. :-)

Rona Birnbaum---12/06/2009 05:59:33 PM---1. please make this change in the Foreword in ALL Volumes. It involves deleting one sentence and I

From: Rona Birnbaum/DC/USEPA/US

To: Jason Samenow/DC/USEPA/US@EPA, Ben DeAngelo/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Jeremy Martinich/DC/USEPA/US@EPA, David Chalmers/DC/USEPA/US@EPA, Marcus Sarofim/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA

Date: 12/06/2009 05:59 PM

Subject: Change to stock language

1. please make this change in the Foreword in ALL Volumes. It involves deleting one sentence and I also caught a small typo.

[attachment "REVISED FOREWORD.doc" deleted by Rona Birnbaum/DC/USEPA/US]

2. Please do a search in your volume to ensure that all Responses are consistent with #1 above.

3. Please do a search in your volume for

(b)(5) Deliberative

(b)(5) Deliberative

RTC draft Volume 10 Cause or Contribute 120609 BJD2.doc

| • • | | | |
|-----|---------------------|---------|---|
| | Ben DeAngelo | То | |
| | 04/06/2010 04:56 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\CORRECT Revised Foreword CLEAN.doc |

(b)(5) Deliberative

- CORRECT Revised Foreword CLEAN.doc

William Perkins/DC/USEPA/US 12/06/2009 11:18 PM

To Ben DeAngelo cc Rona Birnbaum, Lesley Jantarasami bcc Subject Fw: Vol 9 Merge Issue Resolved

Ben,

Please check this to confirm that this is good real quick in case we need ERG to open up the patient's chest cavity again tonight. Thank you sir.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 11:18 PM -----

| From: | "Jody Tisano" <jody.tisano@erg.com></jody.tisano@erg.com> |
|----------|--|
| To: | William Perkins/DC/USEPA/US@EPA |
| Cc: | "Jason Renzaglia" <jason.renzaglia@erg.com>, "Mae Thomas" <mae.thomas@erg.com>,</mae.thomas@erg.com></jason.renzaglia@erg.com> |
| | "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> |
| Date: | 12/06/2009 11:16 PM |
| Subject: | Vol 9 Merge Issue Resolved |

Hi Bill,

Here is Volume 9 with everyone's edits and their track changes (ERG and EPA combined). We have also updated the section/subsection titles and numbers in the TOC per Lesley's email sent to Matt 12/6/2009 8:42 PM.

Jody

Jody Tisano ERG 1600 Perimeter Park Morrisville, NC 27560 (919) 468-7900 E-mail: Jody.Tisano@erg.com

(b)(5) Deliberative

vol 9 first-round edited_EVERYONE's EDITS.doc

| - | | | |
|---|---------------------|---------|--|
| | Lesley Jantarasami | То | |
| | 04/01/2010 03:51 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\RTC draft Final Volume 6 12-06-09.doc |

(b)(5) Deliberative

- RTC draft Final Volume 6 12-06-09.doc

| William Perkins/DC/USEPA/US 12/06/2009 11:44 PM | To Carole Cook cc "DeLoose, Christopher", Erin Birgfeld, "Tuberson, Kyle", Mausami Desai, (b)(6), "Stambaugh, Sandi", Stacy Kika bcc | |
|---|---|--|
|---|---|--|

Subject Update on endangerment staging

Chris, Kyle, and Sandi,

It looks like,

(b)(5) Deliberative

However, we should have most or all of the 11 Response to Comment volumes and the Technical Support Document waiting in your inbox first thing in the morning (I believe that you are coming in at 6 a.m.).

What I will be sending you is a Word document for each that we would like you to PDF and then link appropriately. Please be prepared for a blizzard of quick turnarounds tomorrow morning. We should have everything, finalized, up on the staging server absolutely no later than 11 a.m. or so barring a major holdup.

Thank you and please contact me if you have any questions.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst **Climate Science and Impacts Branch** Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Carole Cook

12/06/2009 07:38:58 PM

| From: | Carole Cook/DC/USEPA/US |
|----------|---|
| To: | Erin Birgfeld/DC/USEPA/US@EPA |
| Cc: | "Tuberson, Kyle" <ktuberson@icfi.com>, "DeLoose, Christopher" <cdeloose@icfi.com>,</cdeloose@icfi.com></ktuberson@icfi.com> |
| | Mausami Desai/DC/USEPA/US@EPA, (b)(6), Stambaugh, Sandi", "Stambaugh, Sandi" |
| | <sstambaugh@icfi.com>, Stacy Kika/DC/USEPA/US@EPA, William</sstambaugh@icfi.com> |
| | Perkins/DC/USEPA/US@EPA |
| Date: | 12/06/2009 07:38 PM |
| Subject: | RE: Endangerment web edits-I'm on now-Carole(eom) |

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 71 of 150

EPA-3168

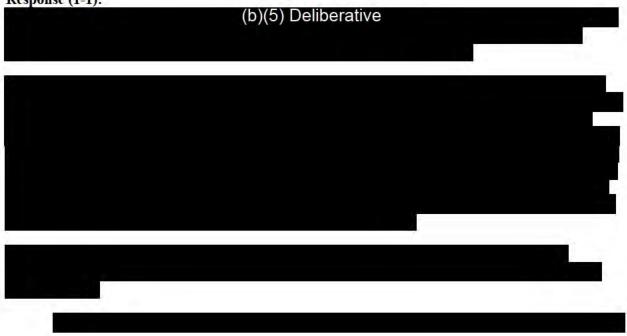
| | Rona Birnbaum/DC/USEPA/US | То | Jeremy Martinich |
|------------|------------------------------|---------|---|
| | | cc | |
| | 12/06/2009 11:52 PM | bcc | |
| | | Subject | Re: Fw: USE THIS ONE: Final Version of 1.1.1 (response to literature submitted) |
| yes, looks | good! | | |
| | | | |

| Jeremy Martinich | | Comment (1-1): A large number of c | 12/06/2009 11:41:05 PM | |
|------------------|-------------------------------|---|------------------------|--|
| From: | Jeremy | / Martinich/DC/USEPA/US | | |
| To: | Rona Birnbaum/DC/USEPA/US@EPA | | | |
| Date: | 12/06/2 | 2009 11:41 PM | | |
| Subject: | Fw: US | Fw: USE THIS ONE: Final Version of 1.1.1 (response to literature submitted) | | |

Comment (1-1):



Response (1-1):



Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 72 of 150



Jeremy Martinich USEPA, Climate Change Division 202-343-9871

| 00 | | | |
|----|---------------------|---------|--|
| | Ben DeAngelo | То | |
| | 04/06/2010 04:56 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\RTC draft Volume 10 Cause or Contribute 120609 BJD.doc |

(b)(5) Deliberative

RTC draft Volume 10 Cause or Contribute 120609 BJD.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:51 PM | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\RTC draft Final Volume 6 12-06-09 clean.doc |

(b)(5) Deliberative

TC draft Final Volume 6 12-06-09 clean.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 75 of 150

EPA-3171

| Ben DeAngelo (b)(6) 12/06/2009 11:58 PM | | William Perkins Rona Birnbaum, Lesley Jantarasami, Ben DeAngelo |
|---|---------|--|
| | Subject | Fwd: Fw: Vol 9 Merge Issue Resolved |

| ill, | (b)(5) Deliberative | |
|------|---------------------|--|
| | | |
| | | |

Let me know if this works.

------ Forwarded message ------From: <<u>DeAngelo.Ben@epamail.epa.gov</u>> Date: Sun, Dec 6, 2009 at 11:22 PM Subject: Fw: Vol 9 Merge Issue Resolved To: (b)(6) Ben DeAngelo

Benjamin DeAngelo Sent by EPA Wireless

----- Original Message -----From: William Perkins Sent: 12/06/2009 11:18 PM EST To: Ben DeAngelo Cc: Rona Birnbaum; Lesley Jantarasami Subject: Fw: Vol 9 Merge Issue Resolved Ben,

Please check this to confirm that this is good real quick in case we need ERG to open up the patient's chest cavity again tonight. Thank you sir.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202

(C) (b)(6)

----- Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 11:18 PM

From: "Jody Tisano" <<u>Jody.Tisano@erg.com</u>>

To: William Perkins/DC/USEPA/US@EPA

Cc: "Jason Renzaglia" <<u>Jason.Renzaglia@erg.com</u>>, "Mae Thomas" < <u>Mae.Thomas@erg.com</u>>, "Matthew Mitchell" <<u>Matthew.Mitchell@erg.com</u>>

Date: 12/06/2009 11:16 PM

Subject: Vol 9 Merge Issue Resolved

Hi Bill,

Here is Volume 9

(b)(5) Deliberative

Jody

Jody Tisano ERG 1600 Perimeter Park Morrisville, NC 27560 (919) 468-7900 E-mail: Jody.Tisano@erg.com

(See attached file: vol 9 first-round edited_EVERYONE's EDITS.doc)



RTC draft Volume 9 120609+DINA.doc

| Ben DeAngelo | То | |
|---------------------|---------|---|
| 04/06/2010 04:56 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\RTC draft Volume 10 Cause or Contribute 120609 BJD2.doc |

(b)(5) Del berative

RTC draft Volume 10 Cause or Contribute 120609 BJD2.doc

| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:45 PM | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\RTC draft Volume 10 Cause or Contribute 120609 BJD2.doc |

(b)(5) Deliberative

RTC draft Volume 10 Cause or Contribute 120609 BJD2.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 80 of 150

EPA-3174

| William | То | Ben DeAngelo |
|---------------------|---------|---|
| Perkins/DC/USEPA/US | cc | Ben DeAngelo, Lesley Jantarasami, Rona Birnbaum |
| 12/07/2009 12:10 AM | bcc | |
| | Subject | Re: Fwd: Fw: Vol 9 Merge Issue Resolved |

Rona and Lesley,

| I just talked | through this with Be | n on the phone. The b | oottom line is that | (b)(5) Deliberative | |
|---------------|---|-----------------------|----------------------|------------------------|--|
| | | | | | |
| | | | | | |
| Cheers, | | | | | |
| | | | | | |
| Bill | | | | | |
| Bill Perkins | | | | | |
| | ange Adaptation Ana | | | | |
| | ence and Impacts Bi | anch | | | |
| | ange Division | dency | | | |
| | am@epa.gov | igency | | | |
| (0) 202.343 | .9460 | | | | |
| (F) 202.343. | and the second se | | | | |
| (C) (b)(6 | (\mathbf{D}) | | | | |
| Ben DeA | ngelo Bill, | (b)(5) Deliberative | e | 12/06/2009 11:58:38 PM | |
| From: | Ben DeAngelo | (b)(6) | > | | |
| To: | William Perkins/D | C/USEPA/US@EPA | States and | | |
| Cc: | | | esley Jantarasami/DC | /USEPA/US@EPA, Ben | |
| Date: | DeAngelo/DC/US 12/06/2009 11:58 | | | | |
| Subject: | | erge Issue Resolved | | | |

| 11, | (b)(5) Deliberative | |
|-----|---------------------|--|
| | | |
| | | |
| | | |

Let me know if this works.

------ Forwarded message ------From: <<u>DeAngelo.Ben@epamail.epa.gov</u>> Date: Sun, Dec 6, 2009 at 11:22 PM Subject: Fw: Vol 9 Merge Issue Resolved To: (b)(6) Ben DeAngelo Benjamin DeAngelo Sent by EPA Wireless

----- Original Message -----From: William Perkins Sent: 12/06/2009 11:18 PM EST To: Ben DeAngelo Cc: Rona Birnbaum; Lesley Jantarasami Subject: Fw: Vol 9 Merge Issue Resolved Ben,

Please check this to confirm that this is good real quick in case we need ERG to open up the patient's chest cavity again tonight. Thank you sir.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460

(F) 202.343.2202

(C) (b)(6)

----- Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 11:18 PM

From: "Jody Tisano" <<u>Jody.Tisano@erg.com</u>>

To: William Perkins/DC/USEPA/US@EPA

Cc: "Jason Renzaglia" <<u>Jason.Renzaglia@erg.com</u>>, "Mae Thomas" < <u>Mae.Thomas@erg.com</u>>, "Matthew Mitchell" <<u>Matthew.Mitchell@erg.com</u>>

Date: 12/06/2009 11:16 PM

Subject: Vol 9 Merge Issue Resolved

Hi Bill,

Here is Volume 9

(b)(5) Deliberative

Jody

Jody Tisano ERG 1600 Perimeter Park Morrisville, NC 27560 (919) 468-7900 E-mail: Jody.Tisano@erg.com

(See attached file: vol 9 first-round edited_EVERYONE's EDITS.doc)

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 83 of 150

EPA-3175

William Perkins/DC/USEPA/US 12/07/2009 12:21 AM To Mae Thomas cc Lesley Jantarasami bcc Subject Volume 9 for original copyediting

Mae,

As discussed. Thank you.

Cheers,

Bill

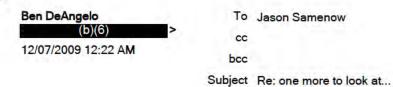
(b)(5) Deliberative

RTC draft Volume 9 120609+DINA.doc

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 84 of 150

EPA-3176



Am responding to this one first...

| b)(5) Deliberative | |
|--------------------|--|
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| | |
| | |

On Sun, Dec 6, 2009 at 11:58 PM, <<u>Samenow.Jason@epamail.epa.gov</u>> wrote:

| Note the | (b)(5) Deliberative | |
|--|---|--|
| Comment ^{(b)(6) Deliberation} | (b)(5) Deliberative | |
| Response (b)(6) Deliberativ | (b)(5) Deliberative | |
| | | |

EPA-EF-005402



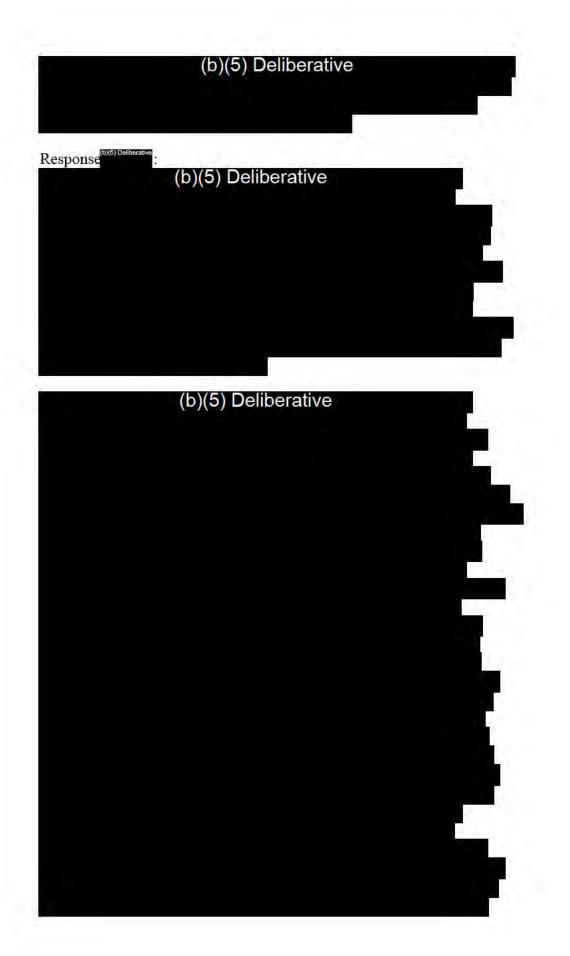
Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 86 of 150

| Ben DeAngelo (b)(6) 12/07/2009 12:25 AM | cc | Jason Samenow |
|---|----------------|---------------------------------|
| 12/07/2000 12:20 / 48 | bcc Subject | Re: comment/response to look at |
| (b)(5) Deli | iberative | |
| | | |
| | | |

On Sun, Dec 6, 2009 at 11:56 PM, <<u>Samenow.Jason@epamail.epa.gov</u>> wrote:



EPA-EF-005404





Jason To Marcus Sarofim cc 2007/2009 12:25 AM bcc Subject Fw: vol 2 for Jason

here you go...

Jason

----- Forwarded by Jason Samenow/DC/USEPA/US on 12/07/2009 12:25 AM -----

| From: | "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> |
|----------|--|
| To: | William Perkins/DC/USEPA/US@EPA, "Mae Thomas" <mae.thomas@erg.com>, "Sue Eisenfeld"</mae.thomas@erg.com> |
| | <sue.eisenfeld@erg.com></sue.eisenfeld@erg.com> |
| Cc: | Jason Samenow/DC/USEPA/US@EPA |
| Date: | 12/07/2009 12:18 AM |
| Subject: | Re: vol 2 for Jason |

Hi Jason--

I believe I've addressed the issues you identified. I hope this all looks OK to you!

Matthew N. Mitchell
ERG
110 Hartwell Avenue
Lexington, MA 02421-3136
(p) 781-674-7331
(f) 781-674-2851
>>> <Perkins.William@epamail.epa.gov> 12/06/09 6:23 PM >>>

Matt, Sue, and Mae,

As I emailed about earlier, here is the additional work that we need completed on Volume 2 (enclosed).

(b)(5) Deliberative

Jason Samenow is the POC for this at 202.343.9327.

Finally, your team is doing a really great job on this and this will all be complete in the next few hours.

Thank you.

Cheers,

Bill

(b)(5) Deliberative

look then please call Jason.

| Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (0) 202.343.9460 (F) 202.343.2202 (C) (b)(6) Forwarded by William Perkins/DC/USEPA/US on 12/06/2009 06:16 PM |
|--|
| From: Jason Samenow/DC/USEPA/US |

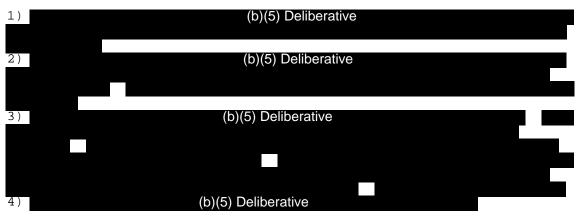
- To: William Perkins/DC/USEPA/US@EPA
- Date: 12/06/2009 06:15 PM
- Subject: Fw: requests for ERG on vol 2



(b)(5) Deliberative

| Forward | ed by Jason Samenow/DC/USEPA/US on 12/06/2009 05:46 PM |
|----------|--|
| From: | Jason Samenow/DC/USEPA/US |
| | |
| Date: | 12/06/2009 05:24 PM |
| Subject: | requests for ERG on vol 2 |

Instructions for ERG on Volume 2:



Thanks so much... Jason

Comment:

| | (b)(5) Deliberative | |
|-----------|---------------------|--|
| | | |
| | | |
| | | |
| Response: | | |
| | (b)(5) Deliberative | |
| | | |

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 92 of 150



ed2-vol 2120/09.doc

William Perkins/DC/USEPA/US 12/07/2009 12:25 AM

To Lesley Jantarasami cc bcc Subject Fw: volume 10

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 12:25 AM -----

| From: | William Perkins/DC/USEPA/US |
|----------|------------------------------------|
| To: | Lesley Jantarasami/DC/USEPA/US@EPA |
| Date: | 12/07/2009 12:24 AM |
| Subject: | Fw: volume 10 |

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 12:24 AM -----

| From: | "Matthew Mitchell" <matthew.mitchell@erg.com></matthew.mitchell@erg.com> |
|----------|---|
| To: | Lesley Jantarasami/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA |
| Cc: | "Mae Thomas" <mae.thomas@erg.com>, "Sue Eisenfeld" <sue.eisenfeld@erg.com></sue.eisenfeld@erg.com></mae.thomas@erg.com> |
| Date: | 12/06/2009 03:02 PM |
| Subject: | volume 10 |

Here's the second-round edit of Volume 10. Please let me know if you have any questions! Today, I'm still best reachable by cell phone: (b)(6)

Matthew N. Mitchell ERG 110 Hartwell Avenue Lexington, MA 02421-3136 (p) 781-674-7331 (f) 781-674-2851 (b)(5) Deliberative

vol 10 second-round edited.doc

Marcus Sarofim/DC/USEPA/US 12/07/2009 12:38 AM To Lesley Jantarasami cc bcc Subject Volume 3 for page numbering?



vol 3 second-round edited-mcs.doc

I failed at getting page numbers to do my bidding. Hopefully I didn't screw up the formatting so much that it makes your life difficult... but could you do your page numbering magic for me on this? Thanks!

-Marcus

| 0. | | | |
|----|---------------------|---------|--|
| | Ben DeAngelo | То | |
| | 04/06/2010 04:57 PM | сс | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\vol 9 first-round edited_EVERYONE's EDITS.doc |

(b)(5) Deliberative

vol 9 first-round edited_EVERYONE's EDITS.doc

| ~ | | | |
|---|---------------------|---------|--|
| | Ben DeAngelo | То | |
| | 04/06/2010 04:56 PM | СС | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\RTC draft Volume 9 120509 BJD -jh1206.doc |

(b)(5) Deliberative

RTC draft Volume 9 120509 BJD -jh1206.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 97 of 150

EPA-3183 Lesley To Marcus Sarofim Jantarasami/DC/USEPA/US cc 12/07/2009 01:01 AM bcc Subject Re: Volume 3 for page numbering? Here ya go! (b)(5) Deliberative vol 3 second-round edited-mcs LJ.doc Marcus Sarofim I failed at getting page numbers to do ... 12/07/2009 12:38:05 AM From: Marcus Sarofim/DC/USEPA/US Lesley Jantarasami/DC/USEPA/US@EPA To: 12/07/2009 12:38 AM Date: Subject: Volume 3 for page numbering?

[attachment "vol 3 second-round edited-mcs.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

I failed at getting page numbers to do my bidding. Hopefully I didn't screw up the formatting so much that it makes your life difficult... but could you do your page numbering magic for me on this? Thanks!

-Marcus

| Marcus Sarofim/DC/USEPA/US | То | Lesley Jantarasami |
|-------------------------------|-----------|----------------------------------|
| 12/07/2009 01:02 AM | cc bcc | |
| | Subject | Re: Volume 3 for page numbering? |

Yay, thank you!

Marcus C. Sarofim, PhD phone: 202-343-9993 fax: 202-343-2202 1310 L Street 256C AAAS Science & Technology Policy Fellow with the EPA Climate Division

| Lesley Jantarasami | Here ya go! | 12/07/2009 01:01:23 AM |
|---------------------------------|--|------------------------|
| To: Marcus S Date: 12/07/200 | Intarasami/DC/USEPA/US barofim/DC/USEPA/US@EPA 09 01:01 AM me 3 for page numbering? | |

Here ya go!

[attachment "vol 3 second-round edited-mcs LJ.doc" deleted by Marcus Sarofim/DC/USEPA/US]

| Marcus S | arofim I failed at getting page numbers to do | 12/07/2009 12:38:05 AM |
|-----------------------|---|------------------------|
| From: To: Date: | Marcus Sarofim/DC/USEPA/US Lesley Jantarasami/DC/USEPA/US@EPA 12/07/2009 12:38 AM | |
| Subject: | Volume 3 for page numbering? | |

[attachment "vol 3 second-round edited-mcs.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

I failed at getting page numbers to do my bidding. Hopefully I didn't screw up the formatting so much that it makes your life difficult... but could you do your page numbering magic for me on this? Thanks!

-Marcus

Jason Samenow/DC/USEPA/US 12/07/2009 01:09 AM To Lesley Jantarasami cc bcc Subject vol 5



vol 5 120709.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:51 PM | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\Comment 6-34.doc |

(b)(5) Deliberative

omment 6-34.doc

| Jeremy Martinich | То |
|---------------------|-----|
| 04/01/2010 01:28 PM | сс |
| | bcc |

Subject UPLOAD

> G:\CCD\CSIB\Martinich\Endangerment\Endangerment\Com ment Sections\Final versions\Volumes\RTC draft Volume 1 General TSD Approach 12-6-09 TRACK.doc

(b)(5) Deliberative

RTC draft Volume 1 General TSD Approach 12-6-09 TRACK.doc

William Perkins/DC/USEPA/US 12/07/2009 01:19 AM

To Lesley Jantarasami cc Marcus Sarofim bcc

Subject Fw: Volume 3, ready for staging ... I think ...

Marcus: Thank you, **(b)(5)** Deliberative Lesley has some magic that she is performing on the volumes to make the page numbers correct and a couple other things and then we'll give this little guy to ICF for them to post **(D)(5)** Deliberative

Lesley: Whenever you work your magic we can send to ICF.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 01:17 AM -----

| From: | Marcus Sarofim/DC/USEPA/US | |
|----------|-------------------------------------|--|
| To: | William Perkins/DC/USEPA/US@EPA | |
| Date: | 12/07/2009 01:09 AM | |
| Subject: | Volume 3, ready for staging I think | |

(b)(5) Deliberative

vol 3 second-round edited-mcs LJ.doc

(b)(5) Deliberative

Marcus C. Sarofim, PhD phone: 202-343-9993 fax: 202-343-2202 1310 L Street 256C AAAS Science & Technology Policy Fellow with the EPA Climate Division

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 103 of 150

EPA-3189

William Perkins/DC/USEPA/US 12/07/2009 01:21 AM

To Lesley Jantarasami cc Marcus Sarofim bcc Subject Re: Fw: Volume 3, ready for staging... I think...

Awesome!

(b)(5) Deliberative

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

 Lesley Jantarasami
 my magic has already been incorp...
 12/07/2009 01:20:01 AM

 From:
 Lesley Jantarasami/DC/USEPA/US
 12/07/2009 01:20:01 AM

 To:
 William Perkins/DC/USEPA/US@EPA
 12/07/2009 01:20 AM

 Cc:
 Marcus Sarofim/DC/USEPA/US@EPA
 12/07/2009 01:20 AM

 Subject:
 Re: Fw: Volume 3, ready for staging... I think...

my magic has already been incorporated!

| Cc: | Marcus Sarofim/DC/USEPA/US@EPA 12/07/2009 01:19 AM | |
|-------|---|--|
| Cc: | Marcus Sarofim/DC/USEPA/US@EPA | |
| To: | Lesley Jantarasami/DC/USEPA/US@EPA | |
| From: | William Perkins/DC/USEPA/US | |

Marcus: Thank you, **(b)(5)** Deliberative Lesley has some magic that she is performing on the volumes to make the page numbers correct and a couple other things and then we'll give this little guy to ICF for them to post **(D)(5)** Deliberative

Lesley: Whenever you work your magic we can send to ICF.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 01:17 AM -----

From:Marcus Sarofim/DC/USEPA/USTo:William Perkins/DC/USEPA/US@EPADate:12/07/2009 01:09 AMSubject:Volume 3, ready for staging... I think...

[attachment "vol 3 second-round edited-mcs LJ.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

(b)(5) Deliberative

Marcus C. Sarofim, PhD phone: 202-343-9993 fax: 202-343-2202 1310 L Street 256C AAAS Science & Technology Policy Fellow with the EPA Climate Division

| Ben DeAngelo | То | |
|---------------------|---------|--|
| 04/06/2010 04:56 PM | сс | |
| | bcc | |
| | Subject | |

Subject UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\Higuera_2535.pdf

- Higuera_2535.pdf

Available at http://www.esajournals.org/ doi/pdf/10.1890/07-2019.1

| Jeremy Martinich | То |
|---------------------|-----|
| 04/01/2010 01:28 PM | cc |
| | bcc |

Subject UPLOAD

G:\CCD\CSIB\Martinich\Endangerment\Endangerment\Com ment Sections\Final versions\Volumes\RTC Volume 1 General TSD Approach 12-6-09.doc

(b)(5) Deliberative

RTC Volume 1 General TSD Approach 12-6-09.doc

| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:45 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 5 120709.doc |
| | | |

(b)(5) Deliberative

- vol 5 120709.doc

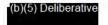
| William Perkins/DC/USEPA/US 12/07/2009 01:30 AM | | ktuberson, "Stambaugh, Sandi", CDeLoose Carole Cook, Mausami Desai, Erin Birgfeld, Stacy Kika |
|---|---------|--|
| | Subject | RTC Volume 3 for posting to staging |

Please PDF and post the following as RTC Volume 3 in the appropriate place on the endangerment staging page with the following filename: "RTC Volume 3.pdf"

Thank you.

Cheers,

Bill



RTC Volume 3.doc

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

| Jeremy Martinich | То |
|---------------------|-----|
| 04/01/2010 01:29 PM | cc |
| | bcc |

Subject UPLOAD

G:\CCD\CSIB\Martinich\Endangerment\Endangerment\Com ment Sections\Final versions\Volumes\Old versions\RTC Volume 1 General TSD Approach nearFINAL.doc

(b)(5) Delibera ive

RTC Volume 1 General TSD Approach nearFINAL.doc

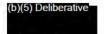
| EPA-3195 | | | |
|---|---|-----------|---|
| | Villiam Perkins/DC/USEPA/US | То | Rona Birnbaum, Jason Samenow, Lesley Jantarasami, David Chalmers, Marcus Sarofim, Jeremy Martinich, Ben DeAngelo |
| 1 | 2/07/2009 01:32 AM | cc | |
| | | bcc | |
| | | Subject | Significant moral victory: First RTC Volume (3) sent to ICF for staging |
| Only 10 more | e to go! | | |
| Climate Scien Climate Char U.S. Environ perkins.willia (O) 202.343.2 (F) 202.343.2 (C) (b)(6) | mental Protection Agency m@epa.gov 9460 2202 | JS on 12/ | /07/2009 01:31 AM |
| From: | William Perkins/DC/USEPA/U | S | |
| To: | ktuberson@icfi.com, "Stamba | ugh, San | di" <sstambaugh@icfi.com>, CDeLoose@icfi.com</sstambaugh@icfi.com> |
| Cc: | Carole Cook/DC/USEPA/US@ Birgfeld/DC/USEPA/US@EPA | | ausami Desai/DC/USEPA/US@EPA, Erin (ika/DC/USEPA/US@EPA |
| Date: | 12/07/2009 01:30 AM | , Stacy r | |
| Subject: | RTC Volume 3 for posting to s | taging | |

Please PDF and post the following as RTC Volume 3 in the appropriate place on the endangerment staging page with the following filename: "RTC Volume 3.pdf"

Thank you.

Cheers,

Bill



RTC Volume 3.doc

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Marcus Sarofim/DC/USEPA/US 12/07/2009 01:34 AM To Jason Samenow cc bcc

Subject volume 2.1

I think this is ready for primetime. Hopefully. Anyway, you should be able to paste it right in...

(b)(5) Deliberative

ed2-vol 2 120709-mcs2.doc

-Marcus

Marcus C. Sarofim, PhD phone: 202-343-9993 fax: 202-343-2202 1310 L Street 256C AAAS Science & Technology Policy Fellow with the EPA Climate Division

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 112 of 150

| EPA-3197 | | | | |
|-----------------|---------------------|----------------------|---------------|------------------------|
| | Lesley | | Jason Samenow | |
| | Jantarasami/DC/USE | PA/US cc | | |
| | 12/07/2009 01:36 AM | bcc | | |
| | | Subject | Re: vol 5 | |
| Done! | | | | |
| (b)(5) Del bera | ative | | | |
| vol 5 120709 | LJ.doc | | | |
| Jason S | Samenow [attachm | nent "vol 5 120709.0 | doc" delete | 12/07/2009 01:09:11 AM |
| From: | Jason Samenow/I | DC/USEPA/US | | |
| To: | Lesley Jantarasar | ni/DC/USEPA/US@E | PA | |
| Date: | 12/07/2009 01:09 | AM | | |

[attachment "vol 5 120709.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

(

Date: Subject:

vol 5

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:45 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 3 second-round edited-mcs.doc |

(b)(5) Delibera ive

vol 3 second-round edited-mcs.doc

| Marcus Sarofim | То | |
|----------------|---------|---|
| | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\msarofim\My Documents\WorkFolder\Tsd_Anpr\ResponseToComments\Fi nalVolumes\vol 3 second-round edited-mcs.doc |

(b)(5) Deliberative

vol 3 second-round edited-mcs.doc

William Perkins/DC/USEPA/US 12/07/2009 01:38 AM To Mae Thomas cc Lesley Jantarasami bcc Subject Fw: vol 10 - almost final

Mae,

As discussed; all we need is a very quick copyedit. There are probably a few tiny little things that we missed. Thank you.

Cheers,

Bill

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 01:38 AM -----

| From: | Lesley Jantarasami/DC/USEPA/US |
|----------|---------------------------------|
| To: | William Perkins/DC/USEPA/US@EPA |
| Date: | 12/07/2009 01:30 AM |
| Subject: | vol 10 - almost final |

(b)(5) Deliberative

RTC Final Volume 10 Cause or Contribute 120609.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 116 of 150

EPA-3201

Jason Samenow/DC/USEPA/US 12/07/2009 01:49 AM To Lesley Jantarasami cc bcc Subject volume 2



vol 2 120809.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 117 of 150

EPA-3202

David Chalmers/DC/USEPA/US 12/07/2009 01:51 AM To Marcus Sarofim cc bcc Subject



Volume 4_12-06-09.doc

David Chalmers ORISE Fellow U.S. EPA, Climate Change Division 202.343.9814

| Ben DeAngelo | То | |
|---------------------|---------|---|
| 04/06/2010 04:56 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\Comment 6-34 BJD.doc |
| | | |

(b)(5) Deliberative

Comment 6-34 BJD.doc

| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:45 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 3 second-round edited-mcs LJ.doc |
| | | |

(b)(5) Deliberative

vol 3 second-round edited-mcs LJ.doc

| 00 | | | |
|----|---------------------|---------|---|
| | Ben DeAngelo | То | |
| | 04/06/2010 04:56 PM | cc | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\owner\My Documents\Endangerment\Response to Public Comments\RTC draft Volume 9 120609+DINA.doc |

(b)(5) Deliberative

RTC draft Volume 9 120609+DINA.doc

| Marcus Sarofim | То | |
|----------------|---------|---|
| | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\msarofim\ M y Documents\WorkFolder\Tsd_Anpr\ResponseToComments\Fi nalVolumes\vol 3 second-round edited-mcs LJ.doc |
| | | |

(b)(5) Deliberative

vol 3 second-round edited-mcs LJ.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:51 PM | cc | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljant Documents\Endangerment\02 Comments |

ntara\My ts and Responses/Vol 6 stuff/Comment 6-34 BJD.doc

(b)(5) Deliberative

Comment 6-34 BJD.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 123 of 150

EPA-3208 Lesley To Jason Samenow Jantarasami/DC/USEPA/US cc 12/07/2009 02:10 AM bcc Subject Re: volume 2 Done (b)(5) Deliberative thanks! (b)(5) Deliberative vol 2 120809 LJ.doc Jason Samenow [attachment "vol 2 120809.doc" delete ... 12/07/2009 01:49:26 AM From: Jason Samenow/DC/USEPA/US Lesley Jantarasami/DC/USEPA/US@EPA To: Date: 12/07/2009 01:49 AM volume 2 Subject:

[attachment "vol 2 120809.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

| ~~ | | | |
|----|---------------------|---------|--|
| | Lesley Jantarasami | То | |
| | 04/01/2010 03:45 PM | cc | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\RTC Final Volume 10 Cause or Contribute 120609.doc |

(b)(5) Deliberative

RTC Final Volume 10 Cause or Contribute 120609.doc

| Lesley Jantarasami | То |
|---------------------|-----|
| 04/01/2010 03:51 PM | сс |
| | bcc |

Subject UPLOAD C:\Documents and Settings\Ijantara\My Documents\Endangerment\02_Comments and Responses\Vol 6 stuff\Higuera.doc



Available at http:// www.esajournals.org/doi/ pdf/10.1890/07-2019.1

| Marcus Sarofim | То | |
|----------------|---------|--|
| | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\msarofim\My Documents\WorkFolder\Tsd_Anpr\ResponseToComments\Fi nalVolumes\ed2-vol 2 120709-mcs.doc |

(b)(5) Deliberative

ed2-vol 2 120709-mcs.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 127 of 150

EPA-3212

Jeremy Martinich/DC/USEPA/US 12/07/2009 02:33 AM To Lesley Jantarasami

cc Rona Birnbaum, William Perkins

bcc

Subject V1

Specific directions:

-The appendices should be appended to the end of V1. I've already included page numbers in the Appendices so that the numbering runs continuously (1-147).

-The appendices are about 14MB right now. It would be good if ICF could compress the file to make it smaller but still fully readable.

(b)(5) Deliberative

av

RTC Volume 1 General TSD Approach FINAL.doc Volume 1 - Appendices A, B, C.pdf

Jeremy Martinich USEPA, Climate Change Division 202-343-9871 available at: http://www.epa.gov/climatechange/ endangerment.html#comments

| Marcus Sarofim | То | |
|----------------|---------|---|
| | CC | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\msarofim\My Documents\WorkFolder\Tsd_Anpr\ResponseToComments\Fi nalVolumes\ed2-vol 2 120709-mcs2.doc |

(b)(5) Deliberative

ed2-vol 2 120709-mcs2.doc

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:45 PM | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 5 120709 LJ.doc |

(b)(5) Deliberative

vol 5 120709 LJ.doc

Jason Samenow/DC/USEPA/US 12/07/2009 02:38 AM To William Perkins cc bcc Subject volume 5 for staging



vol 5 120809.doc

| Jason Samenow/DC/USEPA/US | То | William Perkins |
|------------------------------|---------|--------------------------|
| | сс | |
| 12/07/2009 02:40 AM | bcc | |
| | Subject | Re: volume 5 for staging |

yes

| William F | Perkins thanks did Lesley add TOC, etc. to th | 12/07/2009 02:39:58 AM |
|-----------------------------------|---|------------------------|
| From: To: Date: Subject: | William Perkins/DC/USEPA/US Jason Samenow/DC/USEPA/US@EPA 12/07/2009 02:39 AM Re: volume 5 for staging | |
| | | |

thanks -- did Lesley add TOC, etc. to this yet?

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

| Jason Sa | amenow | [attachment "vol 5 120809.doc" delete | 12/07/2009 02:38:35 AM |
|----------|---------|---------------------------------------|------------------------|
| From: | Jason | Samenow/DC/USEPA/US | |
| To: | Williar | n Perkins/DC/USEPA/US@EPA | |
| Date: | - | 2009 02:38 AM | |
| Subject: | volum | e 5 for staging | |

[attachment "vol 5 120809.doc" deleted by William Perkins/DC/USEPA/US]

| - | | | |
|---|---------------------|---------|---|
| | Lesley Jantarasami | То | |
| | 04/01/2010 03:45 PM | cc | |
| | | bcc | |
| | | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 2 120809.doc |
| | | | |

(b)(5) Deliberative

vol 2 120809.doc

David Chalmers/DC/USEPA/US 12/07/2009 02:50 AM To Lesley Jantarasami cc bcc

Subject magic please

Hi Lesley,

Can you work your page numbering/table of contents magic on this please? Thanks!!!

(b)(5) Deliberative

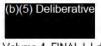
Volume 4_FINAL.doc

EPA-3219 Lesley

Lesley To David Chalmers Jantarasami/DC/USEPA/US cc 12/07/2009 03:06 AM bcc

Subject Re: magic please

Here ya go - take one last look to see if page #s are correct and stuff.



Volume 4_FINAL LJ.doc

| David Chaln | ners Hi Lesley, Can you work your page nu | 12/07/2009 02:50:33 AM | |
|-----------------------------------|---|------------------------|--|
| From: To: Date: Subject: | David Chalmers/DC/USEPA/US Lesley Jantarasami/DC/USEPA/US@EPA 12/07/2009 02:50 AM magic please | | |

Hi Lesley,

Can you work your page numbering/table of contents magic on this please? Thanks!!!

[attachment "Volume 4_FINAL.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

| Lesley Jantarasami | То | |
|---------------------|---------|--|
| 04/01/2010 03:45 PM | СС | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\vol 2 120809 LJ.doc |

(b)(5) Deliberative

vol 2 120809 LJ.doc

William Perkins/DC/USEPA/US 12/07/2009 03:10 AM To Lesley Jantarasami cc bcc Subject Fw: volume 2!!! :)

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 03:10 AM -----

 From:
 Jason Samenow/DC/USEPA/US

 To:
 William Perkins/DC/USEPA/US@EPA

 Date:
 12/07/2009 02:58 AM

 Subject:
 volume 2!!! :)

(b)(5) Deliberative

vol 2 120809.doc

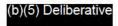
(b)(5) Deliberative

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 137 of 150

EPA-3222

Lesley Jantarasami/DC/USEPA/US 12/07/2009 03:14 AM 5cc Subject Re: Fw: volume 2!!! :)

yay!



vol 2 120809 LCJ.doc

| William F | Perkins | Bill Perkins Climate Change Adaptation | 12/07/2009 03:10:21 AM |
|-----------|---------|--|------------------------|
| From: | Willia | am Perkins/DC/USEPA/US | |
| To: | Lesle | ey Jantarasami/DC/USEPA/US@EPA | |
| Date: | 12/0 | 7/2009 03:10 AM | |
| Subject: | Fw: v | volume 2!!! :) | |

Bill Perkins

Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 03:10 AM -----

 From:
 Jason Samenow/DC/USEPA/US

 To:
 William Perkins/DC/USEPA/US@EPA

 Date:
 12/07/2009 02:58 AM

 Subject:
 volume 2!!! :)

[attachment "vol 2 120809.doc" deleted by Lesley Jantarasami/DC/USEPA/US]

(b)(5) Deliberative

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 138 of 150

EPA-3223

David Chalmers/DC/USEPA/US 12/07/2009 03:21 AM To Suzanne Kocchi cc Carol Holmes, Rona Birnbaum, William Perkins bcc

Subject Re: docket update



| Suzanne | Kocchi | Ok. Let's just chase this up Mon. | | 12/06/2009 11:19:59 AM |
|----------|--------|-----------------------------------|------------|------------------------|
| From: | Suzar | nne Kocchi/DC/USEPA/US | | |
| To: | Carol | Holmes/DC/USEPA/US@EPA | | |
| Cc: | Rona | Birnbaum/DC/USEPA/US@EPA, David C | Chalmers/D | C/USEPA/US@EPA |
| Date: | 12/06/ | 2009 11:19 AM | | |
| Subject: | Re: do | ocket update | | |

Ok. Let's just chase this up Mon.

Carol Holmes

----- Original Message -----From: Carol Holmes Sent: 12/06/2009 10:17 AM EST To: Suzanne Kocchi Cc: Rona Birnbaum; David Chalmers Subject: Re: docket update Hi Suzie -- (b)

(b)(5) Deliberative

Confidential communication for internal deliberations only; Attorney-client, attorney work product and/or enforcement privilege; Do not distribute outside EPA or DOJ

Carol S. Holmes Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave, NW (MC 2344A) Washington, DC 20460 Phone (202) 564-8709 Fax (202) 564-5603

Suzanne Kocchi

(b)(5) Deliberative

12/06/2009 09:35:12 AM

| From: | Suzanne Kocchi/DC/USEPA/US |
|----------|---|
| To: | Carol Holmes/DC/USEPA/US@EPA |
| Cc: | "David Chalmers" <chalmers.david@epamail.epa.gov>, "Rona Birnbaum"</chalmers.david@epamail.epa.gov> |
| | <birnbaum.rona@epamail.epa.gov></birnbaum.rona@epamail.epa.gov> |
| Date: | 12/06/2009 09:35 AM |
| Subject: | Re: docket update |

(b)(5) Deliberative

David can call them on Mon

Carol Holmes

```
----- Original Message -----
From: Carol Holmes
Sent: 12/05/2009 11:33 PM EST
To: Suzanne Kocchi
Subject: Re: docket update
```

(b)(5) Deliberative

Confidential communication for internal deliberations only; Attorney-client, attorney work product and/or enforcement privilege; Do not distribute outside EPA or DOJ

Carol S. Holmes Office of General Counsel U.S. Environmental Protection Agency 1200 Pennsylvania Ave, NW (MC 2344A) Washington, DC 20460 Phone (202) 564-8709 Fax (202) 564-5603

| Subject: | Re: de | ocket update | | |
|----------|---|--|------------------------|--|
| Date: | | 2009 10:28 PM | | |
| | | es/DC/USEPA/US@EPA, John Hannon/DC/USEP | | |
| | | /DC/USEPA/US@EPA, Dina Kruger/DC/USEPA/L | | |
| 00. | | ich/DC/USEPA/US@EPA, Marcus Sarofim/DC/US | | |
| | Perkins/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Jeremy | | | |
| Cc: | | Jason Samenow/DC/USEPA/US@EPA, Ben DeAngelo/DC/USEPA/US@EPA, William | | |
| To: | David Chalmers/DC/USEPA/US@EPA, Rona Birnbaum/DC/USEPA/US@EPA | | | |
| From: | Suzar | ne Kocchi/DC/USEPA/US | | |
| | | | | |
| Suzanne | Kocchi | To answer Carol's question, (b)(5) Deliberative | 12/05/2009 10:28:01 PM | |
| | | | | |

To answer Carol's question,

(b)(5) Deliberative

To answer your question, yes you have until midnight on Mon to submit but as Carol said better to get it done well before if you can.

(b)(5) Deliberative

Hope that helps. Great job everyone!

From: David Chalmers Sent: 12/05/2009 06:34 PM EST

To: Rona Birnbaum

Cc: Jason Samenow; Ben DeAngelo; William Perkins; Lesley Jantarasami; Jeremy Martinich; Marcus Sarofim; Michael Kolian; Dina Kruger; Carol Holmes; John Hannon; Suzanne Kocchi

Subject: docket update

The updated docket checklist. Please let me know if I'm missing anything.

| ITEM(S) FOR DOCKETING | STATUS |
|-----------------------|--------|
| (b)(5) Deliberative | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

-----Rona Birnbaum/DC/USEPA/US wrote: -----

To: Jason Samenow/DC/USEPA/US@EPA, Ben DeAngelo/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA, Jeremy Martinich/DC/USEPA/US@EPA, Marcus Sarofim/DC/USEPA/US@EPA, David Chalmers/DC/USEPA/US@EPA, Michael Kolian/DC/USEPA/US@EPA From: Rona Birnbaum/DC/USEPA/US Date: 12/05/2009 05:15PM cc: Dina Kruger/DC/USEPA/US@EPA, Carol Holmes/DC/USEPA/US@EPA, John Hannon/DC/USEPA/US@EPA, Suzanne Kocchi/DC/USEPA/US@EPA Subject: Status of RTC Volumes

ALL: status as of 5:15 pm.

Vol 1: final draft now with Dina, John, Carol. Went to ERG for final editing. Any final comments will be made directly onto the edited version in morning.

Vol 2: Dina + OGC review complete. Copy edited version expected back from ERG around 6:00 and final edits will be made directly onto the edited version.

Vol 3: Dina + OGC review complete. Copy edited version expected back from ERG around 6:00 and

final edits will be made directly onto the edited version.

Vol 4: Dina + OGC review complete. Copy edited version expected back from ERG around 6:00 and final edits will be made directly onto the edited version.

Vol 5: Dina + OGC review complete. Copy edited version expected back from ERG around 6:00 and final edits will be made directly onto the edited version.

Vol 6: OGC review complete. Dina reviewing final Ag draft tonight. Final forestry draft will be sent tonight and final review tomorrow morning. Will also be sent OGC if John wants to have another look at that time. Will go to ERG tonight.

Vol 7: OGC review complete. Final draft with Dina and with ERG. Any final comments will be made directly onto the edited version in morning.

Vol 8: Dina + OGC review complete. Copy edited version expected back from ERG around 6:00 and final edits will be made directly onto the edited version. (A few lingering specific comments being worked out.)

Vol 9: final draft now with Dina, Rona, John, Carol. Is with ERG for editing. Any final comments will be made directly onto the edited version in morning.

Vol 10: final draft will be sent to Dina, Rona, John, Carol at 6:00 tonight. Final draft will also be sent to ERG at 6:00. Final review will be completed in the morning and edits made directly onto the edited version.

Vol 11: final draft with Dina. A few responses expected to be update **OGC** review complete but will review the updated responses. Already went to ERG and final edits will be made directly onto the edited version.

On all Volumes: Rona, Dina, Carol and John are ready to address any specific questions on comments/responses.

David: please update the checklist for docketing.

ALL Volumes to be completed by 6:00 Sunday (many should be completed before then). At that point, Bill will work with the Web people to upload all volumes onto the staging server. Once up, we all will still be able to continue with minor polishing, cross-checking, etc. We want to be completed by Monday morning, although minor things can still be tweaked, if needed, on Monday morning.

We're almost there!!

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 142 of 150

EPA-3224

Lesley Jantarasami/DC/USEPA/US 12/07/2009 03:21 AM To Jeremy Martinich cc bcc

Subject Fw: V1

(b)(5) Deliberative

RTC Volume 1 General TSD Approach FINAL LJ.doc

----- Forwarded by Lesley Jantarasami/DC/USEPA/US on 12/07/2009 03:21 AM -----

| From: | Jeremy Martinich/DC/USEPA/US |
|----------|--|
| To: | Lesley Jantarasami/DC/USEPA/US@EPA |
| Cc: | Rona Birnbaum/DC/USEPA/US@EPA, William Perkins/DC/USEPA/US@EPA |
| Date: | 12/07/2009 02:33 AM |
| Subject: | V1 |

Specific directions:

(b)(5) Deliberative

Jeremy Martinich USEPA, Climate Change Division 202-343-9871

David Chalmers/DC/USEPA/US 12/07/2009 03:24 AM To William Perkins cc bcc

Subject Vol 4

ready for the staging server. has been an honor. thanks for the all support and guidance throughout the process.

(b)(5) Deliberative

Volume 4_FINAL.doc

| William Perkins/DC/USEPA/US 12/07/2009 03:34 AM | To cc | Lesley Jantarasami, Jason Samenow, Rona Birnbaum |
|---|----------|--|
| 12/07/2000 00.04 AM | bcc | |
| | Subject | Fw: RTC Volume 2 for staging |

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 03:34 AM -----From: William Perkins/DC/USEPA/US

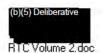
| Subject: | RTC Volume 2 for staging |
|----------|---|
| Subject: | RTC Volume 2 for staging |
| Date: | 12/07/2009 03:34 AM |
| | Kika/DC/USEPA/US@EPA, Erin Birgfeld/DC/USEPA/US@EPA |
| Cc: | Carole Cook/DC/USEPA/US@EPA, Mausami Desai/DC/USEPA/US@EPA, Stacy |
| - | |
| To: | CDeLoose@icfi.com, "Stambaugh, Sandi" <sstambaugh@icfi.com>, ktuberson@icfi.com</sstambaugh@icfi.com> |
| From. | William Perkins/DC/05EPA/05 |

Please PDF and post the following as RTC Volume 2 in the appropriate place on the endangerment staging page with the following filename: "RTC Volume 2.pdf"

Thank you.

Cheers,

Bill



Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

 William
 To
 Rona Birnbaum

 Perkins/DC/USEPA/US
 cc

 12/07/2009 03:35 AM
 bcc

 Subject
 Fw: RTC Volume 5 for posting to staging

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 03:35 AM -----

| From: | William Perkins/DC/USEPA/US |
|----------|---|
| To: | Jason Samenow/DC/USEPA/US@EPA, Lesley Jantarasami/DC/USEPA/US@EPA |
| Date: | 12/07/2009 02:48 AM |
| Subject: | Fw: RTC Volume 5 for posting to staging |

Fyi, here is the file I sent to ICF.

(b)(5) Deliberative

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6) ----- Forwarded by William Perkins/DC/USEPA/US on 12/07/2009 02:47 AM ------

| From: | William Perkins/DC/USEPA/US |
|----------|---|
| To: | CDeLoose@icfi.com, "Stambaugh, Sandi" <sstambaugh@icfi.com>, ktuberson@icfi.com</sstambaugh@icfi.com> |
| Cc: | Carole Cook/DC/USEPA/US@EPA, Erin Birgfeld/DC/USEPA/US@EPA, Mausami |
| | Desai/DC/USEPA/US@EPA, Stacy Kika/DC/USEPA/US@EPA |
| Date: | 12/07/2009 02:47 AM |
| Subject: | RTC Volume 5 for posting to staging |

Please PDF and post the following as RTC Volume 5 in the appropriate place on the endangerment staging page with the following filename: "RTC Volume 5.pdf"

Thank you.

Cheers,

Bill



RTC Volume 5.doc

Bill Perkins Climate Change Adaptation Analyst Climate Science and Impacts Branch Climate Change Division U.S. Environmental Protection Agency perkins.william@epa.gov (O) 202.343.9460 (F) 202.343.2202 (C) (b)(6)

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 147 of 150

EPA-3228

Jeremy Martinich/DC/USEPA/US 12/07/2009 03:35 AM

To William Perkins cc Rona Birnbaum, Lesley Jantarasami bcc

Subject Volume 1 - Final version

Specific directions:

-The appendices should be appended to the end of V1. I've already included page numbers in the Appendices so that the numbering runs continuously (1-142).

-The appendices are about 14MB right now. It would be good if ICF could compress the file to make it smaller but still fully readable. (b)(5) Deliberative

RTC Volume 1 General TSD Approach FINAL.doc Volume 1 - Appendices A, B, C.pdf

available at: http://www.epa.gov/climatechange/ endangerment.html#comments

Jeremy Martinich USEPA, Climate Change Division 202-343-9871

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 148 of 150

EPA-3229

Jeremy Martinich/DC/USEPA/US 12/07/2009 03:44 AM To Lesley Jantarasami cc bcc Subject V7

(b)(5) Deliberative

RTC Volume 7 Water, Coastal, Eco FINAL.doc

Jeremy Martinich USEPA, Climate Change Division 202-343-9871

| Lesley Jantarasami | То | |
|---------------------|---------|---|
| 04/01/2010 03:45 PM | сс | |
| | bcc | |
| | Subject | UPLOAD C:\Documents and Settings\ljantara\My Documents\Endangerment\01_Full Doc\Review Volumes\Volume 4_FINAL.doc |

(b)(5) Deliberative

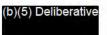
Volume 4_FINAL.doc

Case 1:15-cv-00386-AT Document 1-41 Filed 02/09/15 Page 150 of 150

EPA-3231

Lesley Jantarasami/DC/USEPA/US 12/07/2009 03:49 AM To William Perkins cc Jeremy Martinich bcc Subject vol 7

Should be ready to go!



RTC Volume 7 Water, Coastal, Eco FINAL LJ.doc