

MEMORANDUM

FROM: Lee Gribovicz, WRAP Air Quality Project Manager
E-Mail: lg@westgov.org - Phone: 307-778-4927

SUBJECT: February 12-13, 2009 TWG Santa Fe Meeting Minutes

Meeting Summary

On February 12-13, 2009 the Technical Workgroup (TWG) for the Exploration & Production and Natural Gas Gathering & Processing Greenhouse Gas (GHG) Accounting Protocol project held a Project meeting at the El Dorado Hotel in Santa Fe, New Mexico. The agenda for this meeting and all materials covered are posted on the WRAP Calendar notice which can be reached via the “Meetings and Calls” link of the WRAP Project Website at:

<http://www.wrapair.org/ClimateChange/GHGProtocol/meetings.html>.

Participants attending this meeting included:

<u>Name</u>	<u>Organization</u>	<u>Name</u>	<u>Organization</u>
Tom Moore	WRAP	Lee Gribovicz	WRAP
Mary Uhl	New Mexico Env Dept	Byard Mosher	Calif Air Resources Board
Mike Schneider	New Mexico Env Dept	Joe Fischer	Calif Air Resources Board
Brad Musick	New Mexico Env Dept	Jim Meyer	Environmental Defense Fund
Jill Gravender	The Climate Registry	Karin Ritter	American Petroleum Institute
Jennifer Knowlton	Yates Petroleum	Roger Fernandez	EPA Natural Gas Star
Jeremy Nichols	WildEarth Guardians	Reid Smith	British Petroleum Company
Jim Tangeman	Williams Production	Coleen West	Canadian Assc Ptrlm Prdcrs
Arun Naik	Shell O&G Company	Craig Bock	El Paso Explr & Production
Mark Nordheim	Chevron Corporation	Mark Fesmire	New Mexico Oil Commission
Suzanne Holland	Chevron Corporation	Tom Singer	Nat Resources Defns Council
Terry Snyder	Santa Barbara Co. APCD	Susan Harvey	Harvey Consulting LLC
Steve Messner	SAIC	Amnon Bar-Ilan	Environ International
Sandra Miranda	SAIC	Rob Greenwood	Ross & Associates
Lydia Dobrovlny	Ross & Associates	Stirling Bates	British Columbia (by phone)

The first topic covered by this meeting was the Task 1 “Background & Scoping Paper”. SAIC produced the draft of this paper in January and collected comments through February 4th. During this meeting, they gave the TWG an overview of the comments received (voluminous and detailed). We then explored more deeply the awkward Task 1 elements including Facility Definition and Related Boundary Issues, as well as the extent to which we need to quantify Mobile Source and Scope 3 Contractor Emissions. In general the interest is to try to capture the bulk of the GHG emissions from O&G field operations, while avoiding too complex a protocol that leads to poor quality data. The discussion revealed that the positions on these question are fairly diverse, but the SAIC/Environ team will try to synthesize the various positions into the final path forward for this protocol project.

The SAIC/Environ team then presented an Overview of the Task 2 High-Tier emission quantification methods. High-Tier sources are those which are:

Significant: Sources with significant GHG emissions contributions to a region or field

Accurate: Sources with highly accurate estimation methodologies that utilize measured data or well-vetted input data or emissions factors

There followed an extensive discussion on how to define the level of emission significance and what place accuracy of emission measurement methodologies plays in the identification of High-Tier sources. The project sponsors explained their positions on this matter with CARB feeling that the magnitude of emissions is very important, while New Mexico noted that they were trying to get those High-Tier sources defined according to the quality of the methodology relatively quickly to assure that the Western Climate Initiative was able to use them in the design of the WCI Cap & Trade program.

We then reviewed the discussions on Task 1 and Task 2. Regarding the Task 1 paper the plan is to update Chapters 1-4 with the technical work and hold aside Chapters 5-7 (policy issues) to fold in to the Task 3 work later. Major issues remain regarding Scope 3 contractor emissions and there was a general agreement that we should look to extending the list of reporters for this protocol to include O&G service companies like Halliburton and Schlumberger to quantify contractor emissions. Regarding Facility Definition there was general consensus that there are really multiple kinds of facilities. There are fairly well defined point sources such as major gas processing plants or large permanent compressor stations. Then there are also the “field level” operations that are under “operational control” of a single company.

Regarding the plan for Task 2, the definition of a significant source includes sources that contribute significantly to GHG emissions, paired with the highest tier emission quantification methodology available. There were definitions of significance and accuracy proposed.

The meeting then turned to the plan for completing the final piece of the project, the Task 3 Voluntary Reporting and Verification Protocol. Further progress on Task 3 will await the completion of Tasks 1 and 2, which Task 3 relies upon. The schedule for Task 3 will be explored at the next in-person meeting of the TWG, scheduled for May 4-5 in Denver. Finally, the TWG reviewed the project schedule for late February through May in detail and made the changes noted in red later in this report.

Meeting Details

Rob Greenwood of Ross & Associates opened the meeting, and explained that the goal was to assure that all issues are fully vetted. And he further explained that another goal is to try to reach common ground. He explained that Ross & Associates was not part of the stakeholder group, and was simply contracted to facilitate the process. He gave an overview of the agenda and then turned the meeting over to the project sponsors.

Project Sponsor Background

Mike Snyder with the New Mexico Air Quality Bureau explained that O&G industry is a big part of the 2000 emissions from NM and the nation. NM has a mandatory GHG reporting rule, beginning with direct emission data from 2008 CO₂e. In 2009 they require Title V sources and in 2010 they start requiring data from smaller sources in the O&G industry. They are interested in a comprehensive list and means of estimating O&G GHG emission sources, focusing on the High-Tier emission quantification methods. NM recognizes differences between mandatory and voluntary reporting, and hopes to understand the differences through the work of this TWG.

Byard Mosher of the California Air Resources Board explained that California's AB32 law requires a GHG emission inventory, and mandatory reporting. His group is working on non transportation related sources, with regulations for point sources such as cement and electric generation (25,000 TPY reporting threshold). O&G is another sector that he is working on. California wants to work with stakeholders to develop a workable GHG reporting methodology that accurately captures GHG emissions and informs future GHG accounting and mitigation.

Jill Gravender of The Climate Registry explained who TCR is and what role they play in GHG reporting. TCR represents 41 US States, 12 Canadian Provinces, 6 Mexican States, and 5 Native Sovereign Nations. It is a Voluntary Registry for entity reporting of the 6 GHG's across North America. They currently have a general reporting protocol, and are now in the process of developing industry specific protocols. They provide tools for jurisdiction to help them report GHG's, and try to assure consistency between mandatory reporting programs such that all data is comparable. Their objective in this Workgroup is to understand the O&G industry better, and have a seamless transition to their data programs.

Overview of the Task 1 Background & Scoping Paper Comments

Steve Messner of SAIC began the discussion of the comments received. He noted that we did receive a high volume (around 450) of comments from 12 stakeholders. Technical and organizational comments received included: 1) Clarification or rewording of discussions of oil and gas processes, equipment, emissions, statistical production data, and other factors, 2) Corrections to specific quantitative information or conceptual descriptive text, 3) Comments requesting inclusion of source categories not specifically mentioned, and 4) Organizational comments requesting re-ordering of sections or tables. He gave examples of these various types of comments.

He explained that the contractors value all of the technical and organizational comments received and the technical team will attempt to address all of these comments in preparing a revised draft of the Task 1 Background and Scoping Paper. The complete list of technical and organizational comments received will be provided to the TWG.

The contractor representatives (Steve Messner and Amnon Bar-Ilan) then covered some of the specific issues raised in the various Chapters and then discussed in more detail some of the contractors'

responses to these issues. In Chapter III comments revolved around the regional variations to be accounted for in selecting high-tier source categories and what basic geographic unit might be considered in accounting for regional variations (County, Basin, Field or State). Chapter IV questions included are the ranking criteria selected appropriate and are there additional criteria to use in evaluating methodologies, and are there sources of methodologies not considered in this analysis? In Chapter V specific issues on which comments were solicited included: 1) Are there other E&P sector situations that we missed that may cause confusion when the GRP boundary rules are applied to them?, 2) Are there other (non-boundary) GRP rules and options (e.g., those discussed in Chapter VI) that need further explanation in E&P protocols? and 3) Is the downstream boundary (point of custody transfer) appropriate? Regarding this downstream boundary, there was an extended discussion of “straddle plants” and it was verified that the intention was to include these plants in this protocol.

There was a discussion of “aggregation issues”, with the options proposed by SAIC including: 1) aggregation by lease, 2) aggregation according to EPA’s Stationary Source Definition and 3) aggregation by oil or gas field. One commenter suggested a fourth option aggregation by tax or royalty boundary. Steve Messner discussed some of the pros and cons of these options.

Facility definition also is an issue that must be addressed. There were several suggestions from TWG members, including the issue of mobile sources in the O&G industry, which would be probably hard to segregate as representative of any particular facility.

Regarding Scope 3 contractor emissions, there was a polarity of comments. Reporters were concerned with difficulty in accessing the data needed from contractors, significant administrative burden for the operator in getting that data, lack of accuracy of the reported data which will limit its value and confusion about how the 5% materiality threshold will apply. But some NGO’s and Regulatory Jurisdictions felt strongly that these Scope 3 contractor emissions should be included.

Task 1 Discussion – Facility Definition and Related Boundary Issues

After the overview of comments, the meeting turned to TWG discussion of the problem. Steve Messner reviewed the recommendations, which were:

Aggregation by lease. The advantage of this approach is clarity and precision. However, because individual oil and gas leases tend to be small (typically 640 acres or less in the western U.S.), the problems associated with reporting by individual well may in many circumstances also apply to reporting at the lease level.

Aggregation according to the EPA’s Stationary Source Definitions. EPA requires E&P companies to aggregate their currently reported (non-GHG) emissions data across individual leases, as long as the leases are contiguous.

Aggregation by oil or gas field. Aggregation by field would reduce the number of facilities to a much more manageable level than reporting by well or individual lease. However, along with these

advantages would come some loss of clarity and consistency. Each of the states have developed their own lists of fields, and while the definitions of individual fields on these lists are generally clear, the criteria used to define separate fields differ across jurisdictions and are somewhat arbitrary.

Byard Mosher noted that there are reporting thresholds and if aggregation wasn't considered, then a lot of small sources would escape these reporting requirements. Mark Nordheim explained that in voluntary programs the companies have been used to setting their own aggregation, but when mandatory reporting comes in to play, this aggregation issue becomes more critical. From the reporters' perspective, they need an aggregation methodology that makes sense for their business practice.

We are looking for an aggregation level that provides for consistent comparison, and one that supports a regulatory regime. Mark Nordheim thought that in a "command & control" scenario we need fairness and accuracy, but in a voluntary system we need a more flexible structure. He thought that these were really two very different beasts. Jill Gravender thought that we needed to first define what a facility is, and then we can incorporate the smaller sources in an aggregation scheme for that facility.

Steve Messner pointed out that the ISO 14064 Facility Definition for facility is a: "single installation, set of installations, or production processes, stationary or mobile, which can be defined within a single geographical boundary, organizational unit or production process". Regarding the O&G industry this definition is open to a wide variety of interpretation. Joe Fischer noted part of the problem is that within O&G operations, there are significant differences in the terminology for process sections and even for the various pieces of equipment. Mark Fesmire agreed that the leases are not uniform in structure.

Reid Smith of BP advocated aggregation at the field level as being the most practical. Craig Bock agreed that El Paso Exploration pulls their operation together by field. Byard Mosher noted that in California, they used the principal of operational control, and they had very little problems with this definition. Mark Nordheim noted that the two could be combined into aggregation at the field level taking into account operational control. Jennifer Knowlton commented that from a mid-stream company's perspective, they also agree that a field level is most appropriate.

Regarding mobile sources, it was suggested that WCI already quantifies that sector, thus if mobile sources are included in the O&G industry, they would be double counted. Joe Fisher noted that in California, they moved all the mobile sources (drill rigs, pumps, etc that move at least once a year) into a separate category from other O&G operations.

There was extensive discussion on this facility and aggregation issue, but absolute consensus was slow in emerging. The concept of operational control within a field level seemed to have some convergence. Karen Ritter offered to take whatever SAIC comes up with back to the broader industry under API.

Task 1 Discussion – Mobile Source Emissions

The group acknowledged that there is a distinction between on and off road “vehicular” mobile sources and “relocatable or portable” mobile sources.

Jennifer Knowlton brought up the issue of double counting mobile emissions once again, and Brad Musick explained that the regulatory agencies don’t have a problem with such double counting as long as they are aware of it and can adjust for this double counting in summations of the emissions.

Craig Bock said that the industry doesn’t have a problem reporting emissions from mobile sources that they are responsible for, but he does worry about “tying” such sources to a “facility”. And he noted that there are “relocatable” sources such as compressors that the companies do operate which do move periodically, but that the companies can easily track how much & long such sources operate in any one field.

Reid Smith reminded the group that we are also talking about off shore operations in this protocol, therefore we are also talking about supply and product transport water craft when we are dealing with mobile sources.

Jim Meyer said that he wanted to understand what proportion of the emissions are represented by these mobile sources. Craig Bock said that for his company, mobile source emissions represent a small fraction ($\pm 0.1\%$) of the emissions under his company’s control. But it was quickly pointed out that the contractor emissions from mobile sources are larger than his company’s mobile sources.

Task 1 Discussion – Mandatory Scope 3 (Contractor) Emissions

Susan Harvey thought the sense of the discussion was that operators can report those sources under their operational control, but she noted that the companies hire many other contractors. Thus she felt that the operators do have “operational control” over contractors through the terms of the contracts they issue for hired firms.

Regarding contractors, Byard Mosher reminded everyone that there are some jurisdictional issues regarding contractors. In California, he doesn’t have the authority to require emission reporting for companies headquartered out of his state. The California program only requires mandatory reporting for California companies.

Mark Nordheim noted that by far the largest source in the O&G fields that is not under the operators’ operational control is Drill Rigs. Reid said that Drill Rigs account for about 4% of the emissions from BP fields.

Jennifer Knowlton noted that the data quality from contractors can be much more suspect than data gathered within her company. If Yates is required to report contractor data, then she has large concerns over the accuracy of her report. Arun Naik concurred that if these contractor emissions are

large, they need to be reported, but the operators would be extremely hampered trying to get the information from these contractors. He suggested that they should be required to report their own emissions. Craig Bock felt that the Drilling Companies should be sitting at the table in this meeting and be required to take responsibility for their own operations.

Summary of Task 1 - Background and Scoping Paper Discussion

The interest here is to try to capture the bulk of these GHG emissions. Steve Messner noted that the discussion revealed that the positions are as polarized as he envisioned in the beginning. He noted that the SAIC/Environ team will try to synthesize these positions into the final path forward for this protocol project.

Overview of Task 2 - Technical Review of High-Tier Emissions Quantification Methods

Amnon Bar-Ilan began by explaining that Task 2 was intended to define High-Tier sources. He defined High-tier source categories as those which are:

Significant: Sources with significant GHG emissions contributions to a region or field
Accurate: Sources with highly accurate estimation methodologies that utilize measured data or well-vetted input data or emissions factors

Task 2 will be broken down into the following major topics:

- Definition and identification of high-tier source categories by geographic region and type of production
- Ranking of high-tier source categories by geographic region
- Definition and identification of minor source categories
- Detailed GHG estimation methodologies, including input data/emissions factors, for the high-tier source categories
- Simplified methodologies for minor source categories
- Discussion of emissions estimation input data gaps for particular source categories, and discussion of potential measurement methods or alternative methodologies to address these gaps

With this list, Amnon proceeded to explain each of these topics in more detail.

The end result of Task 2 is a draft report detailing specific methodologies for high-tier source categories and specific quantitative input data to these methodologies by region. The report will also identify potential alternative methodologies or data sources where input data is unavailable. Finally, Task 2 will also present simplified methodologies for estimating GHG emissions from minor source categories including recommended input data.

Amnon noted that the Key issues that need to be resolved in moving forward on Task 2 include:

- Broad regional variations in production and how this affects what source categories are applicable and which ones are significant emissions contributors
- Facility boundary definitions and therefore how to aggregate emissions
- Definition of high-tier vs. minor source

Task 2 Discussion - High Tier Emissions Quantification Paper

There was a question on how much regional variation exists, but the SAIC/Environ contractor team feel that there are significant regional differences in the O&G industry.

Arun Naik suggested that we focus on what methodologies that are commonly available, and determine where there are gaps that must be filled. Byard Mosher said that he thinks of High-Tier almost exclusively in terms of magnitude of emissions. The quality of the methodology is secondary in his mind.

Susan Harvey wanted to know more about definitions of “significance” and “accuracy”. She wanted to focus on what is “readily available”, and she thought we needed a definition of that availability. Rob Greenwood thought that these were excellent questions and he asked members of the TWG to each compile thoughts on these issues.

Brad Musick said that New Mexico was instrumental in writing Task 2 into the project. If there had been a Task 3 voluntary protocol already available, then the states in the WCI would have taken that for the starting point of setting mandatory reporting for the Cap & Trade program. But since these O&G Industry methodologies were unknown, the WCI program needed the High-Tier sources more quickly and New Mexico’s intent was to get these “pieces” as quickly as possible. But he had some fundamental difference in that New Mexico felt that accuracy was the bigger priority than magnitude as advanced by California. He explained that the High-Tier piece of this project won’t be the only thing that WCI uses to define what goes in to the Cap & Trade program, but that they will use more information on the magnitude of emissions in designing that final Cap & Trade regulated list.

Rob Greenwood then went around the room to ask the TWG members to brainstorm what is significant, accurate and reasonably available. Amnon Bar-Ilan captured these suggestions for incorporation into the Task 2 design.

It was suggested that we focus on CO₂ and CH₄ for the High-Tier sources, rather than all six Kyoto gasses. As far as magnitude it was suggested that we include as a High-Tier source the threshold that TCR uses; 5% of a facilities emissions.

Review Refinements to Task 1 - Background and Scoping Paper

Steve Messner discussed the contractor team’s reaction to the comments on the Task 1 Report. He noted that they will work through the technical issues. Regarding non-technical issues, he noted that we made progress on the definition of a facility, but he felt they had time before they worked that

definition into the Task 3 work. His plan is to update Chapters 1-4 with the technical work and hold aside Chapters 5-7 (policy issues) to fold in to the Task 3 work later. TCR, CARB and NMED all concurred with this approach.

Mark Nordheim asked when the Task 1 Paper would go out and Tom Moore indicated that Chapters 1 through 4 would go out to the public in the first half of March. Regarding Task 2, Byard Mosher asked that TWG members send in their lists of contractors to SAIC (Sandra Miranda) to inform the decisions on including Scope 3 emissions into this project. Tom noted that we may try to bring some of the O&G Service industry representatives into this process to help define these contractors' place within this protocol.

Arun Naik reiterated the suggestion of the first day that the solution for getting contractor emissions into the O&G totals lies with extending the list of reporters for this protocol to include O&G service companies like Halliburton and Schlumberger. There seemed to be a general agreement by participants that this is the most appropriate path forward regarding this Scope 3 problem.

Regarding Facility Definition participants made the point that there are really multiple kinds of facilities. There are fairly well defined point sources such as major gas processing plants or large permanent compressor stations. Then there are also the "field level" operations that are under "operational control" of a single company. Basically this boils down to a distinction between the Point Source sector of the inventories and the Area Source sector of those inventories.

Plan for Task 2 - Technical Review of High-Tier Emissions Quantification Methods

Amnon Bar-Ilan then discussed the SAIC-Environ understanding of comments on the High-Tier Task 2 piece of the project. He said we agreed that the definition of a significant source included sources that contribute significantly to GHG emissions, paired with the highest tier emission quantification methodology available. The proposed approach to account for minor sources is to take a top to bottom ranking approach of source categories by region, look at the differences between them (this will help CA and NM) and present the list of sources in the Task 2 work without leaving any source out.

The definition of significance would be a 95% materiality threshold, while the definition of accuracy would lie at a 5% threshold. We would take in to account the API accuracy ranking system for methodologies (Tiers A, B, C). Amnon noted that the O&G industry needs to provide the SAIC-Environ team with the data required to develop rankings.

Amnon noted that additional issues include the fact that there may be regions with insufficient inventory data to develop ranked list of source categories. The suggestion was floated that EPA's top-down national GHG inventory for oil and gas could be used in combination with detailed production statistics for specific basins to develop rough ranking of categories. The list of categories contributing significantly (>95%) to the GHG inventory for a basin will not be necessarily the same across basins. The list of minor source categories (<5%) will also not likely be the same across basins, however the combination of significant source categories across basins will likely capture the majority of

combustion and process-related sources. And he noted that if data is determined to be not readily available for a high-tier methodology, recommendations can be made based on additional measurement methods as they are being developed by CARB, EPA and others.

Plan for Task 3 – Voluntary Reporting and Verification Protocol

The TWG discussed work on the Task 3 deliverable in the context of the project schedule below. TCR is willing to defer work on Task 3 until Task 2 is complete. The work on Task 3 relies upon completing Tasks 1 and 2.

Project Schedule

Items shown in red were discussed and amended at the February 12-13 meeting. Some dates are subject to discussion and decisions by the project Steering Committee and the Technical Team in late February. A revised schedule will be distributed to the TWG after the Steering Committee call.



Oil & Gas Exploration & Production and Natural Gas Gathering & Processing Greenhouse Gas Accounting Protocol

February 18, 2009 - Project Schedule Update (from February 12-13 TWG Meeting)

September-October 2008

- ✓ Release project plan, update project web page, and notify interested parties
- ✓ Form Technical WorkGroup (TWG) & Protocol Advisory Group (PAG)
- ✓ Initial TWG call – September 11, 2008 - <http://www.wrapair.org/cal/calendar.php?op=view&id=848>
- ✓ Release Request For Proposal, issue contract for protocol technical support and preparation

November

- ✓ Select technical support contractor, finalize contractor work plan, and begin preparation of background and scoping paper
- ✓ TWG call – November 6, 2008 - <http://www.wrapair.org/cal/calendar.php?op=view&id=849>
- ✓ Outline for Task 1 - Background and Scoping Paper prepared by contractor and released to TWG

December

- ✓ TWG call – December 17, 2008 – Topics:
 - Outline for Task 1 - Background and Scoping Paper – review so TWG is ready and able to provide feedback no later than December 31, 2008 - Laura Gehlin (Laura.C.Gehlin@saic.com) is collecting comments

- Review the December 15, 2008 schedule update, focusing on December 2008 through March 2009 deliverables.

January 2009

- ✓ TWG Task 1 - Draft Background and Scoping Paper to be released to TWG January 23, 2009.
- ✓ **January 23rd, 1100 AM MST TWG call** – Topics:
 - Identify content of draft Task 1 paper and review needs/timing, answer clarifying questions
 - Review draft agenda for February 12-13 meeting.

February

- ✓ February 4th – TWG members to complete review of Task 1 - Draft Background and Scoping Paper – written comments to Sandra Miranda (Sandra.Miranda@saic.com).
 - Comments should address emissions as well as issues such as organizational boundaries and indirect sources - looking ahead to voluntary protocol preparation
 - Comments processed by SAIC-ENVIRON and addressed at February 12-13 meeting.
- ✓ **TWG Meeting in Santa Fe – February 12-13 (8-5 on Thursday, 8-12 on Friday)**
 - Review Task 1 “Final Draft” Background and Scoping Paper based on SAIC-ENVIRON analysis of comments received by January 30th
 - Review Outline for Task 2 - Technical Review of High-tier Emissions Quantification Methods.
 - Plans for Task 3 - Voluntary Reporting and Verification Protocol preparation
 - Update to Project Schedule – set call and meeting dates for March through May 2009.
- *Late February - post and distribute draft Task 1 paper (Version 1a) with additions to Chapter 4, which added reviews of the offshore (MMS) and oil sands GHG accounting methodologies – this was completed by SAIC-ENVIRON on February 4th, so it was not posted or sent previously to TWG members.*
- Task 2 - Technical Review of High-tier Emissions Quantification Methods **“Concept and general structure” to be released February 24th.**
- *Late February - Steering Committee to decide need for review by Protocol Advisory Group and broad group of stakeholders of the Task 2 paper after the May 4-5 meeting*

March

- Release Task 1 – “Final Draft” Background and Scoping Paper to Protocol Advisory Group and broad stakeholder review on **March 6th**.
 - Review comments due to Sandra Miranda by **March 27th**.
 - *TWG Task 1 closeout call as needed*

April

- Task 1 paper final by **April 8th**.
- Task 2 paper to then be released to TWG on **April 3rd**.
- **April 3rd 1100 AM MST TWG call** – Topics:
 - **Identify content of draft Task 2 paper and review needs/timing, answer clarifying questions**
 - **Review draft agenda for May 4-5 meeting.**
- By **April 24th** – TWG to complete review of Task 2 - Technical Review of High-tier Emissions Quantification Methods for on-shore and off-shore oil and gas activities for use by the Western Climate Initiative Partners in support of GHG emissions reporting rule development - written comments to Sandra Miranda.

May

- **May 4-5 TWG meeting in Denver – Topics:**
 - **Review and finalize revised Task 2 paper, addressing comments incorporated as received by SAIC-ENVIRON no later than April 24th**
 - **Decide meeting and call schedule for May through September.**

ALL DATES AND DELIVERABLES ON THIS SCHEDULE AFTER MAY 4-5 TWG MEETING IN DENVER ARE PENDING UNTIL LATE FEBRUARY STEERING COMMITTEE CALL

- *Release Task 2 - “Final Draft” Technical Review of High-tier Emissions Quantification Methods paper to Protocol Advisory Group and broad stakeholder review **in May**.*
 - *Review comments due to Sandra Miranda by **after that**.*
 - *TWG Task 2 closeout call as needed*
 - *Task 2 paper final **after that**.*
- *Outline of Task 3 - Voluntary Reporting and Verification Protocol to be released to TWG by **DATE??** - written comments to Sandra Miranda.*
- **Proposed TWG call on **DATE??****
 - *Review areas and types of comments to be addressed*
 - *Comments due by **DATE??** to Sandra Miranda, to be processed by SAIC-ENVIRON and addressed at TWG meeting in late May*
- **Final Version Outline of Task 3 - Voluntary Reporting and Verification Protocol to be released to TWG?**
 - *Review process to complete drafts of the protocol, review and approval process during Summer 2009*

June and Summer 2009

- *“First Draft” of voluntary reporting and verification protocol released to TWG*
 - *TWG calls to discuss voluntary protocol issues*
 - *Subsequent draft(s) of voluntary reporting and verification protocol to be released to TWG*
 - *TWG evaluation of subsequent drafts (calls as needed)*
 - *Contractor completes draft Protocol for public release in consultation with the TWG; public release upon approval by TCR Board of Directors*
 - *Presentation of Protocol in person at one public meeting*
 - *Public comment period begins*
 - *Contractor organizes all public comments, summaries and suggested revisions*
 - *Final TWG meeting to review comments (in person)*
 - *Contractor prepares draft final Protocol*
- Protocol presented to TCR Board of Directors for finalization and adopt*