

MEMORANDUM

FROM: Lee Gribovicz, WRAP Air Quality Project Manager
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SUBJECT: July 22-23, 2009 TWG Sacramento Meeting Minutes

Summary

On July 22-23, 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 Citizen Hotel in Sacramento, California. The main topics of the meeting were the process for finalizing Task 2 Significant Sources Report, reviewing the comments on the July 13th draft of Task 3 voluntary O&G E&P Reporting Protocol, and discussing the proposed path forward to move beyond Task 2 report in preparing a Mandatory Reporting Protocol for the Western Climate Initiative (WCI). 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>
Mike Schneider	New Mexico Env Dept	Peggy Foran	The Climate Registry
Byard Mosher	Calif Air Resources Board	Joe Fischer	Calif Air Resources Board
Doug Thompson	Calif Air Resources Board	Vincent Agusiegbe	Calif Air Resources Board
Bill Winkler	Calif O&G Conservation	Miriam Lev-On	Levon Group (for API)
Jennifer Knowlton	Yates Petroleum	Reid Smith	British Petroleum Company
Coleen West	Canadian Assoc Ptrlm Prdcrs	Brian Ross	Nexen Inc. (for CAPP)
Arun Naik	Shell Oil Company	Craig Bock	El Paso Explr & Production
Mark Nordheim	Chevron Corporation	Roger Fernandez	EPA Natural Gas Star
Sue Solger	Chevron Corporation	Jim Meyer	Contek (for NRDC)
Bob Savage	Alberta Environment	Steve Messner	SAIC
Chris Minnucci	SAIC	Sandra Miranda	SAIC
Rob Greenwood	Ross & Associates	Lydia Dobrovolny	Ross & Associates
Lee Gribovicz	WRAP	Tom Moore	WRAP

By Phone

Amnon Bar-Ilan	Environ International	Ron Friesen	Environ International
Dennis Paradine	British Columbia Env Ministry	Jim Tangeman	Williams Production
Karin Ritter	American Petroleum Institute	Jackie Huggins	The Climate Registry
Kitty Oliver	Calif Air Resources Board	Paula Fields	Eastern Research Group

Meeting Details

Tom Moore opened the meeting and briefly gave an overview of the meeting agenda. The agenda and all meeting materials are available on the notice for this meeting on the WRAP webpage at: <http://www.wrapair.org/cal/calendar.php?op=view&id=1641> He explained that at this meeting we will look at finalizing Task 2 *Significant Source Categories & Technical Review of Estimation Methodologies*, before moving into discussions on the TCR Voluntary Protocol Development Process and detailed review of the Task 3 *Oil & Gas Production Protocol*. We will also cover an addendum to that Task 3, covering inclusion of sources involved in *Oil Pipelines*.

Project Path Forward

Tom noted that for Task 3, we need to review the Voluntary Protocol timeline and meeting/call schedule to assure completion to meet TCR's requirements. But he also discussed the proposed path forward to move beyond Task 2 report and noted that Steering Committee has identified need to prepare a Mandatory Reporting Protocol and Analysis of Methods to be used in that protocol. This task was not an explicit part of SAIC/Environ's current Scope of Work, but rather this new Mandatory Protocol would be prepared under a new Scope primarily in support implementation of WCI, and eventually EPA, reporting requirements. And with the WCI program as the initial application for this new Protocol, it is logical to work on under the WCI banner to support those partners in that effort.

He noted that a key to completing this WCI Mandatory Protocol is to have the TWG continue to provide expertise and advice to craft the reporting preparation of this protocol. The Steering Committee has identified that the current TWG would be of great assistance in developing the Mandatory Protocol. But it is likely that additional TWG representatives will be needed, to broaden "coverage" of the TWG and their advice. The Steering Committee will work on a proposal for this Mandatory Protocol project for consideration by WCI with work to begin on developing that proposal in next few months.

It was asked whether there are different drivers for having both a Voluntary and a Mandatory Protocol, and do we need both. TCR thinks of these as concentric circles, with the Mandatory Protocol occupying the inner circle, while the Voluntary Protocol encompasses a wider universe of participants. But the discussion continued to explore whether these weren't synchronous processes. It was noted that the Mandatory Protocol supports Cap & Trade programs, thus a Mandatory protocol requires a bit stronger level of accuracy for those sources included in such Cap & Trade programs. The Mandatory Protocol would include "compliance grade" methods for reporting. The difference was summed up by saying that a Voluntary Protocol had a higher level of uncertainty incorporated into the reporting methods.

Finalizing Task 2: Significant Source Categories & Technical Review of Estimation Methodologies

We then began a discussion of finalizing the Task 2 report. We noted that the Analytical work is now complete. The purpose of this Task was to provide a ranking of sources for various production types by basin across WCI region, using screening level inventories calculated from various data sources and

available methods. Environ made substantive changes from April 22nd version of the report in the current July 13th version and these changes were reviewed in a Summary Table of Changes (7/13/09 version) distributed to the TWG prior to this meeting.

Changes included: Additional Results, Corrections (fixing inaccuracies, technical corrections) and amending the focus of the report to clearly identify that: 1) GHG emissions calculation methods used were only for screening level inventories by basin/production type, and 2) Methods reported in Table 30 are not necessarily comprehensive or best for mandatory or voluntary reporting protocols, but rather are a starting point for further work for those efforts.

Some TWG members suggested that the Task 2 report was preliminary and incomplete, thus it was requested that a caveat to that effect, be placed into the report. Others felt that it was not preliminary at all, but rather it represented the current “state of the art” for reporting methodology. The project sponsors agreed that there are significant “data gaps” in this report, thus New Mexico and California are faced with receiving some reports missing some of the emission picture unless these gaps are voluntarily filled in the report submissions. But it was noted that historically, regulators don’t usually “get it right” the first time. And it is expected that there will be subsequent revisions as time passes.

It was requested that commentors provide electronic copy of continued Task 2 concerns to Tom Moore during or immediately after this July 22-23rd meeting. The deadline for submitting comments was proposed for July 31st. An “Executive Summary” will be prepared after comments are received, and this will explain the deficiencies in the identified methodology. The Task 2 Report will move to “final draft” status after these technical correction and editorial comments are addressed. We are targeting mid-August for finalizing this report.

TCR Voluntary Protocol Development Process

Peggy Foran then gave a presentation on an “Overview of the TCR Voluntary Protocol Development Process”. She noted that TCR is the implementation body for the World Resources Institute/World Business Council for Sustainable Development GHG Corporate Standard in North America. This Corporate Standard is a “policy neutral” comprehensive collection of standardized reporting best practices. The principles of The Registry’s program include: Relevance, Completeness, Consistency, Transparency & Accuracy.

TCR’s Protocol Development Process involves the following series of activities: 1) form a Workgroup, 2) conduct a literature review & develop background paper, 3) Workgroup discussion of goals of the protocol and preparation of a background paper, 4) drafting the protocol, 5) Workgroup discusses key issues with input from Verification Advisory Group, 6) draft presented to Protocol Committee and Audit & Verification Oversight Committee, 7) draft presented to Executive Committee, 8) draft released for public comment & public webinars held to take verbal comments, 9) public comments analyzed and presented to Workgroup, 10) Workgroup strives for consensus-based resolutions on key issues for final protocol, 11) final draft presented to Protocol Committee and Audit & Verification Oversight Committee for approval, 12) final draft presented to Executive Committee for approval, and 13) final presented to full Board of Directors for adoption.

Overview of Comments on Task 3 – Oil & Gas Production Protocol

SAIC then provided a PowerPoint presentation with an overview of comments received to date from TWG members on the current July 13th version of the Task 3 Protocol. Comments were received on major policy and other qualitative issues including:

- Contractor emissions and related issues
- Field-level reporting and related issues
- Permit-level reporting
- Flaring and water ponds
- TCR reporting options
- Single-commenter issues
- Comments on quantitative methodologies

Comments were received from 11 individuals, representing 9 organizations (3 industry organizations, 1 state agency, 1 environmental organization, 4 organizations that are members of TCR's Verification Advisory Group and are Registry-recognized verification bodies). There were 212 total comments all told. Approximately one-third were of an editorial or organizational nature, with about one-third being technical comments on the methodologies, and the remaining comments (about 70) dealing with higher-level issues which were the primary focus of the remainder of this presentation.

SAIC's broad findings showed that 1) consensus is still lacking on contractor emissions, 2) broad consensus appears to exist on the concept of field-level reporting, 3) comments are split on permit level reporting (some for, some against) and 4) there appears to be a general interest in providing further guidance for estimating flaring emissions. Chris Minnucci then went into a detailed discussion of the comments as captured in his PowerPoint presentation posted on the WRAP website meeting notice.

Task 3 - Detailed Discussion of Major Policy Issues

Major policy issues include: 1) Contractor Emissions and Related Issues, 2) Field-Level Reporting and Related Issues, and 3) Permit Level Reporting .

The most controversial issue is the matter of reporting *Contractor Emissions*:

A question was raised as to what mechanism is in place to prevent a contractor from double reporting these emissions. SAIC clarified that unlike for Scope 1, there is always the potential for double, triple, etc. reporting of Scope 3 emissions; therefore Scope 3 emissions should never be summed across multiple reporters.

SAIC summarized arguments against the reporting of any Contractor Emissions as:

- It presents legal problems
- It is anticipated that contractors will not respond to requests for emissions-related data

- Current practice does not require contractors to report emissions unless stipulated in their contracts

Industry representatives noted that the TCR GVP currently requires reporting of Scope 1 (direct) and Scope 2 (indirect-heat and electricity) emissions from reporters. They felt that this sector does not want to set the precedent for reporting Scope 3 (indirect GHG emissions - in this case, from contracted services) emissions. They suggested that the approach consistent with GRP to getting contractor emissions reported is to require contractors to report their direct (scope 1) emissions, rather than from O&G operators for whom these emissions are indirect (scope 3).

The requirement to report scope 3 emissions will make it difficult for O&G operators to get those emissions verified since they do not control the supporting data and documentation to verify those emissions, thus holding up verification of entire report.

SAIC summarized arguments in favor of requiring and extending the reporting of contractor emissions as:

- Contractor emissions are significant at some fields
- Drilling, completions and workovers are central to E&P
- Contractor emissions occur at the command of the operator
- Reporting should be extended beyond drilling, completions and workovers, because other significant contractor emission sources exist (such as mobile sources)

SAIC summarized alternative suggestions concerning contractor emissions as:

- Simplified procedures could be developed for reporting emissions from drilling, completions, and workovers in order to create an incentive for the optional reporting of these emissions
- Contractors that emit more than 25,000 tons CO₂ should be included as Registry Members
- Contractor emissions should not be classified as Scope 3 emissions, because this implicitly asserts that contractor emissions are outside the control of the reporting entity
- Members should be allowed to report contractor emissions in CO₂ equivalents as data by GHG may not be available

Regarding these alternatives, an industry representative felt that the matter of a 25,000 ton CO₂ threshold for inclusion under Registry Membership needed clarification since TCR membership is voluntary, and there is no emissions threshold for that membership, unlike certain mandatory reporting requirements under state and federal regulations.

Regarding the issue of Scope 3 designation for contractor emissions implying that these emissions are outside the operator's control, industry suggested that the definition of Scope 3 is well defined in the GRP and understood by all. And they wanted it clarified that the issue which was brought up was whether some activities such as drilling and workovers are central to oil and gas operations, thus mandating GHG emissions from contractor operations to be reported for obtaining a complete "foot print" of O&G operators. They felt that the issue was not if these emissions should be reported, but rather who should be reporting these emissions.

Regarding the matter of reporting contractor emissions in terms of CO₂ equivalents, rather than by

specific GHG species, an industry representative felt that this point was not clear because CO₂ equivalents and GHG totals are simply two ways of referring to the same emissions.

There was wide ranging discussion of including contractor emissions with public representatives strongly favoring inclusion and producer representatives emphasizing the problems associated with including this type of reporting with the O&G E&P Protocol. It was pointed out that the term “contractor emissions” was a very broad concept. Some contractors such as drilling and workover contractors have significant emissions, while there is another group of contractors (e.g. testers, drilling fluid suppliers, pumpers, etc) that may not have as significant an impact. It was generally acknowledged that there may be “significant contractor emissions”, but the debate seemed to revolve around WHO should report those emissions (O&G E&P Companies or the Contractors themselves).

In reviewing the minutes an industry representative felt that it should be reemphasized that the producers were not opposing inclusion of GHG emissions from contractor performed activities. Rather they were proposing that it should be the responsibility of contractors for whom these emissions are direct (scope 1) to report, and not extend the responsibility of producers for whom these emissions are indirect (scope 3).

The issue of “Custody Transfer” was raised during this discussion. It was pointed out that there are many scenarios possible in the field. There is typically transfer from wells to a gathering system, sometimes another transfer to a second gathering system, transfer to a gas plant, and sales out of the tail gate of the gas plant, or sometimes bypassing some or all of these points entirely. The point of controversy is finding out exactly where the “O&G E&P Industry” ends and the “O&G Transmission Industry” begins. It was suggested that this is really an O&G industry issue to resolve, and they should make a concrete proposal back to the Workgroup from the industry coalition. SAIC will work with the industry to try to complete a definition of this issue.

Regarding **Field Level Reporting**, further suggestions included one that stated that if an alternative EPA approach is developed, that approach should be adopted by TCR. It was also suggested that TCR should adopt a term such as “oil field installations” to designate field-aggregated facilities, to avoid confusion with the term “facility”, and TCR should also adopt field names and boundaries, per the designation in well drilling permits as provided by permitting authorities. And there was the suggestion to aggregate emissions by different source types (e.g., wells) within each field.

The Workgroup had generally accepted the concept of field level aggregation, but these comments suggested that there should be further sub-aggregation of two types. The first would be differentiation between fixed facilities such as gas plants, from dispersed wellfield sources. And the second would be further sub-aggregation by source type. These source types would be 1) combustion emissions, 2) fugitive emissions, 3) process emissions and 4) well venting/flaring. In general industry representatives felt that this type of sub-aggregation would not be that difficult.

There was also the question of **Permit Level Reporting** as another option for sub-aggregation. Arguments in favor of aggregating by permit included:

- It will facilitate benchmarking the accuracy of TCR emissions against the EPA requirements (may be the only way to assess accuracy of TCR's emission estimates)
- It could help to identify and notify companies

Arguments against aggregating by permit included:

- It will add confusion and additional reporting burden without improving accuracy
- Permitting practices and extent vary widely (esp. outside U.S.); therefore reporting by permit will not add to consistency
- Where permits are unit specific this will defeat the purpose of aggregating geographically dispersed sites
- State and local jurisdictions will still maintain their prerogative of crafting requirements to meet their circumstances

Introduction to TCR Verification Process

Peggy Foran and Jackie Huggins gave a presentation on an "Overview of the TCR Verification Process", noting that Verification is independent, third-party review of reported emissions. It is important because it ensures that an inventory is complete, transparent, and accurate, and it provides accountability to stakeholders. TCR recognizes Verification Bodies (VB's) that have been accredited under ISO 14065 and have demonstrated knowledge of TCR's General Reporting Protocol. TCR provides a list of accredited VB's on their website.

The Principles of Verification include 1) Independence, 2) Ethical Conduct, 3) Fair Presentation and 4) Due Professional Care. The Core Verification activities are:

- Assess conformance with the Registry's requirements
- Assess the completeness of your emission report
- Perform a risk-based assessment
- Develop a sampling plan for data and facilities to be visited.
- Evaluate GHG information systems, controls and emission estimates against verification criteria

For the Verification process TCR requires a minimum number of sites be visited, and the VB determines the number and the type of facilities to visit as part of a dynamic sampling plan. The VB informs the Member of the facilities it will visit and submits a Planned Facility Visit Form at least 15 days before scheduled visits. A Verification Report (includes scope, description of verification plan, complete list of facilities, sampling plan, list of any discrepancies identified). A Verification Statement (official documentation of the outcome of the verification activities) must be produced to complete TCR's verification process.

Overview of Comments on Task 3 – Addendum to the General Verification Protocol for O&G E&P Sector Members

Comments were received from 8 individuals, representing 8 organizations (1 industry organization, 1

environmental organization and 6 members of TCR's Verification Advisory Group [recognized VB's]). There were 25 total comments. Approximately one-third were of an editorial nature or simply indicated that the addendum adequately addressed a specific issue. The remaining comments (about 15) dealt with higher-level issues which are the primary focus of the remainder of the presentation.

Task 3 - Detailed Discussion of Verification Issues

There were two major verification issues including: 1) Guidance to Selecting Sample Sizes and 2) Conflicts of Interest.

Regarding *Sample Size*, the question was raised as to whether the generic guidance for selecting an appropriate sample size provided in TCR'S General Verification Protocol, were applicable to the O&G sector? SAIC suggested that it is not appropriate to treat each field as a single facility when selecting the sample of sites to be visited, as the variety of sources included in a field is too broad. The sample size should remain as is unless TCR has reason to believe this sector is more prone to errors (in which case the sample size should be increased). SAIC asked TCR to provide guidance on the percent of wells to be included in the sample size

It was noted that in the United Kingdom (UK) verifiers tend to apply a lower ratio of onsite visits because the data is centrally located. And in the UK there are often difficulties arranging visits to offshore facilities due to health & safety issues, and transportation availability. Based on these UK conditions SAIC raised a couple of questions for the TWG, the first being as to whether the data is generally centrally located in North America? The second was would these health & safety/ transportation difficulties also apply in North American offshore operations?

Industry representatives felt that their data tended to be pretty centrally located (ie/ New Orleans or Houston). Thus it was suggested that 1) the data sample examined for verification be selected for coverage of a prescribed percentage of total GHG inventory, and 2) the site visits focus on where the data resides and is available for examination.

SAIC also pointed out that there are several issues particular to *Conflict of Interest* (COI) in the O&G E&P sector. They asked whether the standard COI rules in TCR's General Verification Protocol need to be expanded to address the verifier's relationships with partners of the TCR Member?

Commentors noted that it will be near impossible to find a verifier without any relationships with Joint Venture (JV) partners, and they suggested that care must be taken not to reduce the limited pool of verifiers unless the risk of COI is high. It was suggested that the standard COI rules should be fine, but the verifier should declare any relationship with other consortium members to enable TCR to make a judgment. The COI rules for consortium-type situations should be as stringent as possible, given that cap and trade is coming in the future. And the COI rules need to be expanded, as major emission decisions may be based on TCR data, but they were not sure how exactly the verifier creates conflict. They wondered whether there was fear that a verifier would pass on confidential information from one company to another? They suggested that it was probably not practicable to have a separate verifier for each consortium member, but instead recommend a minimum of two verifiers whenever there are

multiple owner/operators.

Regarding COI, it was noted that we are generally looking at financial relationships. It was generally thought by the TWG Membership that these relationships would become pretty clear in the process of establishing contracts for Verifiers. Thus there probably is no need to modify or amend TCR's COI rules.

Finally commentors suggested that if Scope 3 emissions are to be verified, relationships with contractors should be included in COI determinations. It was suggested that if contractors find out they will be included in the sampling plan, they may be less willing to provide data.

TCR Value Discussion

Peggy Foran gave a quick statement about the purpose of TCR. She noted that their intent is to centralize high quality GHG data. In the development of GHG science, it made sense that everyone would have quality, comparable data, and thus TCR works to support quality accurate measurement and provide accountability for member companies for their carbon footprint in North America. And she noted that WRI is working to make sure that the GHG reporting adds up to the real total impact. She noted that TCR recognizes members as global environmental leaders, and they get the benefit of publicity on the TCR website and elsewhere. This provides a benefit by demonstrating publically the company's commitment to GHG issues. This is a value to members, thus this Voluntary Protocol can evolve into a "Gold Standard" for reporting from this section.

Rob Greenwood explained that for this Voluntary Protocol, the completeness of the final product will reflect back on the participants. When considering the "burden" of various aspects of voluntary reporting from the O&G E&P sector, the Workgroup should also consider the benefit that will accrue with the publicity and "corporate image" that accompanies a quality final protocol package.

Members of the O&G industry pointed out that they are striving to incorporate a complete picture of their industry, but they noted that this voluntary protocol always has the potential for precedent in the follow-on regulatory system. Thus the lens through which a voluntary protocol is viewed, has in the background the eventual ramifications of mandatory reporting. It was stated that the industry members participating on this Technical Workgroup are charged with crafting a well-designed and effective protocol, with Policy developed at higher level from this effort.

The regulator community noted that this voluntary protocol differs from a mandatory protocol, thus there is additional flexibility in the TCR piece of this project. The regulators then will have a more informed perspective for developing the mandatory rules that are inexorably coming down the road.

Industry emphasized that the value of this process has a lot to do with consistency between voluntary and mandatory rules. They need to see the same framework come out of this effort to assure that they have an accurate, but consistent methodology to use in all of their reporting initiatives.

Field Level Reporting Boundary Complexities

Reid Smith presented a couple of maps intended to illustrate the type of complexities we are facing in developing this protocol. He had a national map of conventional production and a map of California fields. He made the point that these maps show that there are too many fields to have individual reports for all of them, thus we have to aggregate somewhere. If we go on regulatory defined projects, there are shape files available to define each of these projects. And he showed an Excel file with the complexities of gas flow in the Northern San Juan basin. The flow diagram shows multiple sources and destinations for all the gas that comes out of that basin. Field level reporting still makes sense, but the question is whether we want to include regulatory defined fields, or some other construct. But with regulatory defined fields, there are multiple operators working in each of those fields. The solution of reporting units will involve a considerable effort no matter how the TWG eventually defines a “facility”.

Task 3 - Additional Detailed Discussion of Policy Issues

The meeting moved back to the issue of *Permit Level Reporting Options*, it was noted that an alternate approach would be requiring two levels of aggregation (by state permit within each field). As part of the alternative, the TWG could make aggregation by permits a reporting option as opposed to a requirement. One commenter anticipated that the some state environmental agencies will require reporting at the facility permit level. This would be in alignment with state inventory reporting requirements and EPA’s GHG Reporting Rule. Companies generally felt this permit level alternative would be acceptable, but emphasized it would be acceptable only as an option in the Voluntary Protocol..

The next Policy option involved *organizational boundaries*. TCR provides a number of options for defining organizational boundaries (Operational Control, Financial Control, Equity Share), but commentors noted that the protocol does not state which reporting option is most accurate; and requested that the choice of ownership method should be explicit. SAIC clarified that although the draft Protocol doesn’t recommend an option, TCR’s General Reporting Protocol states that control plus equity share is the preferred method. It was also noted that we have hundreds of partners and lease agreements; thus the burden of tracking joint venture emissions is too great and the emissions too small. It was suggested that simplification is needed. Commentors questioned whether anyone would want to report using financial control and would it be of any value for a carbon footprint? The general sense of members was that they wouldn’t typically report using financial control as the definition of boundaries.

There was also a problem with potential interactions with *mandatory reporting*. Commentors suggested that the Protocol should be careful not to undermine the prerogatives of individual states that may wish to establish more robust and comprehensive programs (either mandatory or voluntary). It was generally acknowledged that we don’t want to undermine mandatory reporting, but rather we want to harmonize the Voluntary and Mandatory reporting.

There was also *no uncertainty assessment* of the widely divergent estimation methods, raising

questions about what criteria Members will use to select a specific method? It was felt that there will be significant divergence in emissions estimates for similar situations resulting from Members' preferences. And commentors wondered how accurate the reported emission estimates will be, and what mechanisms would motivate TCR Members to improve their estimates if all methods are equally acceptable. A possible solution would be to create and apply an accounting of uncertainty applicable to each data type, and use resulting levels of uncertainty to caveat emissions reports. Discussion elaborated on the fact that the methodology is critical in getting an accurate report of the emissions. There was suggestion to put more effort into calculating and reporting the uncertainty of the reported emissions. But there is an increasing cost and burden as the methods go up in accuracy and complexity.

Task 3 - Oil Pipeline Addendum

TCR and the Steering Committee have decided that Task 3 should include an addendum that expands Task 3 to include oil transportation sector emissions; pipelines and truck/marine operations. This addendum includes oil pipeline emissions from the same types of fugitive and vented sources present in the E&P sector, as well as combustion emissions from compressor stations. It also includes vented emissions from pipeline pigging and blowdown activities, as well as from vessels (marine tankers) and trucks used to transport the oil where pipelines are not in place.

SAIC gave a presentation of comments received and overview of draft addendum for Oil Pipelines. It covers transportation emission sources, and the methodologies come from the 2009 API Compendium, the 2004 API Compendium and from CAPP's 2002 Estimation of Flaring and Venting Volumes from Upstream Oil and Gas Facilities Guide. Specific methodologies are provided for:

- Oil Pump Stations
- Gas Compressor Stations
- Pipeline Leaks
- Truck, Tanker, Rail loading operations
- Pigging
- Pipeline Blowdowns

Comments stated that the organization of the addendum is confusing. It contains reference to both oil and natural gas pipelines, and some TWG members asked whether this wasn't an expansion of the Scope of this project outside to the distribution sector. But the Steering Committee thinks that this is simply bringing the Protocol up to the "point of custody transfer". Sometimes that means bringing oil to the refinery inlet by means of pipelines or truck/marine vessel transport.

There was a lot of discussion as to whether this piece is really needed. It was suggested that after the O&G hydrocarbons undergo their initial "flash" coming out of the ground, essentially all of the methane is gone from the product (the oil and gas are "demethanized"). The point was that all emissions that occur after "flashing" are composed of VOC emissions which are not Greenhouse Gasses. Therefore it was suggested that this addendum would not really add very much to the measurement/reporting of GHG's from this protocol.

There was a suggestion that the Protocol for natural gas only cover up to the point that the gas is treated to pipeline standards, and that is the point of effective custody transfer where subsequent operations then become part of the transportation sector. There was a lot of sentiment that this Addendum should only apply to “OIL” and should not apply to “NATURAL GAS”.

Regarding Oil, some of the Steering Committee felt that even if “most” of the methane is gone from the oil, there are still “billions of gallons” that could involve “significant” methane volumes in the oil transport to the refinery. The Project Contractors asked that commentors “prove” their contention that there are no significant methane emissions from pipeline transport of oil..

There was some suggestion that because there isn’t enough time to go through a complete review and comment on this addendum, we simply add this Oil Pipeline Addendum to the protocol and allow the TCR public review process to address any incongruities. But there were some TWG members that were adamant that this should not be added to the Voluntary Protocol at all. There was a high level of anxiety with some TWG members to the addition of this addendum to the Voluntary Protocol.

TCR made a proposal to make changes to the addendum based on this meetings’ discussion (remove natural gas references; adjust default assumptions on 15% CH₄ in pipeline oil) and incorporate it in to the full Voluntary Protocol. The “Oil Pipeline” changes would be fully highlighted in this revision. API and the producer coalition felt that if these changes were made, they could then make meaningful comment by mid-August. It was concluded that TCR will get the revised full Protocol by the end of July, then TWG members would work to get comments (on this Pipeline section only) back by August 15th.

Task 3 - Detailed Discussion of Task 3 Methodology Issues

There were also questions on methodology regarding two source types: Flaring Emissions and Water Ponds. Most of the commentors felt that we should attempt to provide generic methods for these two methods, rather than allow use of simplified methods.

Regarding **Flaring**, one company’s reported that flaring emissions in south Texas are very small (<5 MCFD), but those in Louisiana exploration operations are large (>5%). Eliminating flaring from the materiality threshold may discourage measurement of these gas volumes, and the Protocol should not assume that no measured data exists. It was noted that flare emission factors are available from CAPP and IPCC, and flare efficiencies are provided in the International Flare consortium report. It may be overly restrictive to require direct monitoring for all reporters due to safety issues and voluntary nature of TCR, however where a facility has already installed monitors, TCR should require the use of those devices for reporting (but exempt all flaring emissions from the 5% materiality threshold). Commentors agreed that flare volumes vary by orders of magnitude, precluding the use of average emission factors. But they noted that facility level flare volumes are reported to the regulators in Canada (based on a combination of metered volumes and engineering calculations), and are used to estimate royalties. If reported flare volumes are adequate for royalty payments, the opinion was that they are adequate for GHG reporting. Commentors felt that companies should be able to estimate

flaring emissions based on rated size and burn time.

Regarding *Water Ponds*, a commenter said that they do not expect any methane emissions from water ponds. They found that in Canada the norm is to collect produced water in atmospheric tanks. Surface water runoff collected in ponds would not be a source of GHG's from dissolved gases (but might be a source from biological activities). The method used to calculate emissions from atmospheric tanks is similar to that for estimating flash losses from oil storage tanks. Another commenter took the opposite tack and pointed to emission factors for tertiary sumps from an ARB test program in 1980's. It was suggested that because flash studies have shown this, there may be significant CO₂ associated with water ponds due to CO₂ affinity with water.

There were other issues for which comments were received (metrics, simplified methods, stationary combustion devices and a number of other O&G equipment and processes). Although not discussed at this meeting, SAIC's PowerPoint presentation contains more details on these other issues.

Wrap-Up and Next Steps (Including Project Planning and Scheduling)

Byard Mosher explained that he was planning on putting together a proposal with the WCI Reporting Committee on how to incorporate this Workgroup's methods. He plans on sending out Emails on the various methods that can be used to estimate O&G E&P emissions, and will solicit comments on whether those methods are complete and correct.

Tom Moore then went over the Key Activities and Next Steps for this project. These include:

Finishing the Task 2 Report

- submit comments on the July 13th draft by August 15th
- "Final Draft" for broad public access on project webpage within 30 days after comments in

Completing the Next Draft of Task 3/TCR Voluntary Protocol

- Complete next draft of Task 3 TCR Protocol documents
 - * Consider/address comments leading up to and discussions from Sacramento meeting
 - * Fold Pipeline Addendum into Voluntary Reporting Protocol
 - * Next draft to be complete by 7/31 for Public Comment process
 - * Prepare a cover letter with "emphasis areas" for public comment, with informal editorial review/comment by TWG
 - * Public Comment webinars (2) in early September
 - * Public Comment period closes September 25th
 - * Summary of public comment to TWG in 3rd week of October
- November 3rd - target date for next TWG call (or possible in-person meeting) to discuss public comments

Completing the design of the new Task for "mandatory reporting protocol and related analysis/evaluation of methods" for the WCI

- Prepare SoW for "mandatory reporting protocol and analysis/evaluation of methods to be used in

that protocol” task will be developed by the Steering Committee

- Purpose of the proposal for this mandatory protocol project is to identify for WCI consideration and action:
 - * Work to be done/timeline/deliverables
 - * Process to inform and complete that work
- Work on the proposal will need to begin soon
- Primary application of this task is to support implementation of WCI, and eventually EPA, reporting requirements
 - * EPA reporting rule may be final as early as Fall 2009
 - * Data collection to start 1/1/2010

Transition & Augmentation of the TWG to support the new WCI mandatory reporting Task

- Additional TWG representatives will be needed, to reasonably broaden “coverage” of TWG
 - * Need active participation
 - * Should include WCI Partner representatives
 - * Fill in missing perspectives
 - Represent specific sectors
 - Include key upstream O&G organizations (ie/ contractors)
- Steering Committee will work to address these needs
- Steering Committee will seek WCI guidance
- Bottom line: Augmented TWG would be of great assistance in developing the mandatory protocol