D05 Technical Planning Survey

Introduction

The apparent inconsistency that the undecided often decide an election is frequently a reflection of a superficial understanding of critical issues. For this reason, although numbers can indicate general trends in terms of acceptance and deficiencies of ASTM D05, the technical planning survey must pay particular attention to all commentary whether viewed as negative or positive not only by the officers and membership of committee D05 but also by those in ASTM who provide the forum and mechanisms through which D05 standards are promulgated. This is critical to formulating a long term strategic plan that not only maintains but extends the recognition of D05 standards with respect industrial relevance and sustainability on both domestic and international fronts.

With a response of over 50 % of the D05 membership distributed evenly over all voting interests the remarks and observations received with respect to this survey warrant serious consideration. To assist both the membership of D05 and ASTM in this regard the survey has been organized in terms of themes that seem to surface from member comments. Members of D05 and ASTM staff are encouraged to thoroughly review the comments to assess the soundness of the themes presented. Member commentary has been as much as possible grouped into sub themes. A synopsis of these sub-themes has been summarized in **bullet points** for each survey item. The sole exception to this approach is the gap analysis where it seems essential that members read and evaluate every comment from their own perspective. In some case it was necessary to parse member commentary especially when qualified statements such as “Agree, but…” and “Good idea, however…” were received. It is worth noting that asking members to answer with a simple yes, no agree, disagree often prompted additional substantive commentary.

Member Comments Concerning Value of the Survey

Several members commented on the value of the survey and those that could be helpful in future endeavors are presented here. One very telling observation which is much readily appreciated when one begins to assemble the survey results relates to asking questions in “insightful” ways. It quickly becomes evident that this not only means “Clearly articulate the issue you want to address and why.” but also “Develop questions that will prompt useful input.” It can be said that despite the significant shortcomings of this survey in that regard the membership of D05 is to be tanked for their usual frankness in submitting input that should be most valuable for committee with respect to long term planning.

The intention of canvassing the industry particularly those that do not attend or participate in TG’s (the committee) is very good. However, an effective survey is another matter. I think that a seminar or some training on surveys so that they are

1. Easy to fill out and collate
2. Ask questions in insightful ways will greatly enhance this tool.

I personally feel surveys are something to be encouraged because they

1. Increase the number of stakeholders (those impacted by standards) involved
2. Communicate what the TG’s (committee) are willing to work on
3. Focus the work of the TG’s (committee) on areas that are important to the stakeholders

I laud your effort and hope that a strong cadre of participants can be motivated to get behind it. Subcommittee chairs should become an integral part of your plan and incorporate it into subcommittee LRP's as an ongoing responsibility in guiding efforts to future goals.

I have filled out this survey twice now. Apparently, it doesn't find its way to ASTM. If increased response is desired, make document submission easier or more clear.

Themes

- Review and reassess D05 scope as a “product” oriented committee.
- Establish D05 position and criteria for participating in revision and development of ISO standards including submission of existing D05 standards as model and D05 ILS results as validation data.
- Establish strategy for increasing international participation in development of D05 standards including but not limited to interlaboratory studies (ILS).
- Examine impact of ISO certification(s) as an impediment to acceptance of ASTM standards.
- Establish web base tools to proactively inform primary decision makers in the coal utilization industry, engineers and regulators of the value of D05 standards.
- Work with ASTM to establish transparent recognition of the relevance and acceptance of D05 standards with respect to mandatory regulatory requirements.
- Aggressively enlist participation members, who do not regularly attend meetings, in critical work items (task groups).
- Promote D05 through presentations at coal sampling, preparation and utilization conferences.
- Establish web based summaries of standards including reason for implementation, most common examples of application, citations to associated research report(s) with validation date(s) as well as agencies which reference the standards.
- Continue with seminar presentations and training initiatives as a basis for fostering professionalism in the use in application of D05 standards.
- Continue with efforts to establish an umbrella quality management standard with due consideration to comments from this survey.
- Technical subcommittees review gaps cited in this survey in the current body of D05 standards and present options on these are or can be addressed.

Survey Items

The purpose of D05 is to generate standards that meet the needs of the coal industry.

The following is the scope of committee D05 listed on the ASTM web site.

Committee D05 is a product-oriented committee. The products are coal and coke derived from coal. The scope of the Committee shall be the (1) promotion and dissemination of research and knowledge and (2) development of standards for coal and coke derived from coal. Standards include terminology, classifications on the basis of chemical and physical characteristics, guides, practices and test methods for the samplings of coal and coke derived from coal as well as the analysis of the chemical and physical characteristics of coal and coke derived from coal.

The primary areas of interest include metallurgical and utility applications. The work of the Committee will be coordinated with other ASTM Committees and other organizations having mutual interests.

- **General impression that coal industry implies slant towards "producers" as indicated in the lead statement to the D05 scope.**
- **Very little participation from within coal producers i.e. those that actually mine coal (mining engineers) or make coke. Mostly from those that interface with coal sales.**
- **Distinct message D05 should emphasize the utilization side.**

I would rephrase this to say that the purpose of D05 is to generate standards that meet the needs of the coal utilization marketplace. The term "coal industry" implies that it is slanted towards coal "producers".

Quite honestly there are not many geologists or coal miners participating. It's usually lab people, sales people, or managers.

The purpose of D05 is to generate standards that meet the needs of sellers, buyers and others interested parties in the coal industry.

And that meets the needs of trade (evaluation of coal reserves or coal shipments).

True, because it is such a generic statement. D05s mission should be much more specific about representing the different types of businesses (mining, generation, private labs, research, etc.).

In today's world all producers and users of coal have to deal with other fuels and products from the use of fuels. Concentrating on coal standards alone does not give potential users of D05 standards the help they need. D05 should expand its standards activities into alternate fuels and other types of fuels.

I agree with this statement; there may well be overlap with other groups within ASTM; ideally it would be better if approaches used in other committees had some commonality. This is probably difficult to achieve?

Yes absolutely, but this entails also enabling the industry to meet environmental and other regulations.

I agree. The Standards currently serve us in evaluating our product, marketing our product, and providing a contract mechanism for agreement between Buyer and Seller.

Not only of the coal industry, but more so for the users of coal, especially power and steel.

Much broader than that , in addition, all industries that use coal and coke as fuel, raw material for processes, and specialty purposes especially metallurgical.

Yes. To meet the needs of the coal and power generation industries, the steel industry, cement industry, etc.

ASTM D05 standards pertain to coal producers, coal users, and regulatory bodies involved. Each of these stakeholders has different needs that the standards should address.

I agree if the definition of "coal industry" includes coal producers, users and product manufacturers that support producers and users.

Yes, as well as the coke industry, right?

Or the end user of the coal.

As the end user of coal it is equally important that the standards meet the needs of the utility industry. (Both the buyer and the seller.)

Yes. Also users of coal (electric generation industry)

If you are using the coal industry as a collective term that includes the coal users, I will agree.

Agree in principle, but prefer to call it the coal and electric utility.

Yes, but also the coke, iron and steel industry

D05 also must generate standards to meet the needs of the North American steel producers (metallurgical coal users) and power plant operators

What about international acceptance. Our methods should be THE international method, or they should be in harmony with the other international methods. Such as ASTM should work with JIS and DIN to each create a method technically the same for comparisons between countries.

ASTM is there to provide a common set of rules when various parties get involved. When there is only party A and B, they can agree on any definition of how to characterize a substance. Once you have multiple parties, then ASTM needs to provide a common basis for all parties.

No, the purpose is to determine accurate, precise, verifiable, measurements are in the standards. The counterparty's can determine their own needs, ASTM's role is to provide the coal industry unbiased standards that are globally accepted for the use of commercial coal deals.

I view the purpose of D05 is to generate standards that have a technical background (validation) for events that occur in the coal industry. The standards may be cumbersome to some, but exceptions must not be made in those cases.

When there is no practical way to characterize a substance what about research? Is it in any way the purpose of ASTM to research and develop new techniques for characterization? I assume basic research is not; therefore, the purpose of ASTM is to provide a common set of rules. ASTM would get involved in researching the best common practice.

If you include research and development labs in industry, I agree.

We also incorporate these standards for other matrices whenever possible, given that our main concern is scientific investigations pertaining to coal quality, coal resources and reserves, coal databases, and environmental impacts.

All relevant interests (stakeholders) are represented in D05.

- **Despite name change to ASTM International, global participation is inadequate.**
- **Management of producer and users interests does not appreciate or understand benefits of participation.**
- **Over representation from third party (general interest).**
- **Lack of participation from steel makers, utilities and regulators.**
- **Opportunity to involve participants from alternate coal utilization technologies.**

This is not true. We need to recruit more members from the international community.

The move to ASTM International is a good one. American is too limiting and adding international may drive home the point that you don't have to be American or North American to use ASTM or participate.

No. D05 has little representation from any countries outside the USA and Canada. But, I don't see this as a problem.

I am uncomfortable with pushing ASTM internationally. My own personal philosophy is that the world does not welcome our perceived attempts to compete with ISO. I think ASTM's work is vitally important and we can influence ISO better by the quality of our standards. In other words get them to change theirs or adopt ours (ASTM) because they are the best rather than because we want them to buy ours.

Admittedly it is an assumption on my part but I would expect ASTM is grossly underrepresented when it comes to the global community. When they changed to ASTM International in 2002 was there an accompanying increase in participation by non-US companies/personnel?

Probably not in proportion to classes of users but this is a part of the institutional effort needed by ASTM to educate, on a top management level, all classes of producers users and consumers, as well as government agencies, and legislators, Federal, State and Local.

No, not well. The users of the standards are, in general, underrepresented because their management does not see the benefit.

Agree, but many, if not most, do not fully appreciate either the importance of the stake or the condition of the standards.

I perceive special interests maybe represented more than producers or end users.

Meetings I have attended in the past often heavily lean towards consultants and third party laboratories, followed by producers, followed by end users. Be nice if there were more producers and end users.

I would like to see more participation from Sampling Equipment Vendors like ourselves.

I believe so, though there is a disparity in representation and actual stakeholder value. Many large utilities are not active, and service companies/consultants are overly represented. This is a difficult shortcoming to address.

All stakeholders have the ability to be appropriately represented. It is their responsibility to participate to the level they deem necessary to gain benefit from the standards process. They either choose to guide a standard, or accept to follow the guidance of others.

Disagree, no participation from environmental, legal or state governments. Buyers not represented by managers with authority to make decisions in their companies. Seller's under represented. Traders no represented.

No, many large utilities, coal companies and commercial laboratories do not have active members or members at all. I don't think the value of collaboration between all parties has been communicated throughout the industry.

Need to get the work being done in ASTM out to the users and players. Not highly visible as a committee that is open for membership. Some believe that others set the standards and that they have no role in decision making.
Would like to see more representation from PRB coal sellers and users.

Need more active utility participation.

Ash producers are not well represented and FGD.

No, utilities (consumers) are under represented. We need to actively promote the benefits of participation.

Hard to say. They are welcome but do not always take advantage. Producers are represented but utilities are under represented.

Moving forward we will need to include more gasification interests like EPIC. Also, I will look to results of this survey and then others on D05.90 to identify gaps in producers and users.

There are not enough "coke" producers or users. I'm not referring to metallurgical coal people, but "coke" people or organizations.

More participation from Steelmakers would be beneficial from our perspective.

No. There are not enough coke producers. The steel industry needs to get involved.

Not really because I never meet any steel producers at the ASTM meetings. I think the interest in ASTM is running low. We are spending more time in scrutinizing the method and worrying about having meeting in China, than helping the coal and coke users to iron out their problems

More Utilities need to realize the importance of participation in the consensus standard process. As consumers they are under represented in the committee.

I feel that end users are under represented at times.

What standards are most important to your organization?

Coal Markets (International)

- **ISO standards used by non US companies in international markets because of contract or government enforced requirements.**
- **ASTM standards are not considered on an equal footing with ISO standards.**
- **High sales value is placed on ISO certifications.**
- **ASTM standards accepted in cases where US exporters are involved in contracts.**

The company places a very high importance factor to ISO certifications and uses our ISO certifications as a sales tool.

ISO really should supply all standard methods required for international trade (e.g. in coal).

Some international business requires ISO.

Following the globally recognized standards by Indian Laboratories is mainly due to the statutory compliance from NABL (www.nabl.nic.in) that enforces the Indian industry to comply with BIS standards (by dual numbering of ISO standards) in lieu of which other standards like ASTM can be adopted.

As are our company continues to widen our base worldwide, I expect that the ISO standards will become more important to us as, in my estimation. ISO is used in the same capacity internationally as ASTM is used in North America.

We have seen a decline over years (last 5) where normal contracts have changed (or are changing) from ASTM to ISO.

ISO is the most accepted standards in this part of the world...

The ISO standards have been adopted by most New Zealand businesses and it stems from the similarity with British Standards.

Outside the US ISO standards have generally been used by clients in Europe, South Africa, Australia, China, South Korea, and Egypt. Many years ago, we did some work in Chile and at that time they used ASTM standards.

Internationally, ISO is required by our clients more often than ASTM. However, ASTM is a very close 2nd as many countries other than the USA also request ASTM to be used.

Normal requirements within Australia for producers to overseas customers (commercial sales) normally stipulate ISO (majority), ASTM or BSI (minimal).

ASTM standards are the most recognized in the US coal industry. They are not always as comprehensive as ISO, but serve the purpose.

At the time of my retirement, it appeared that there might be some interest in ISO Standards within our company, but I seriously doubt that anything substantial ever happened. With the spin-off of the company, involved with worldwide power production, this thought probably went away.

ASTM is recognized internationally as the standard of record for our clients.

Use ASTM and ISO standards daily in regards to sampling and analysis of coal and petroleum coke as well as design, operations and maintenance of coal sampling systems.

As an international organization involved in trade services, the company uses a wide range of standards (ASTM & ISO) Particular SOPs or SOP are / is used most likely because that method is cited in a contract, contract specification, work order instructions, or purchase order. The company facilities do have the ability to interact with the client to suggest alternative methods (due to local capability or SOP availability), but the first objective of the company is to comply with client requirements.

The ASTM standards are used for our quality control and coal contracts and are accepted world wide.

ASTM standards are agreed upon in the marketplace worldwide. They are updated and reviewed on a regular basis (every five years). Other methods are not.

Our clients ask for us to use ASTM (or ISO where applicable) standards and demand that we do so unless TAT requirements require modification, in which case we validate the modifications.

Coal Markets (Domestic)

- **Wide acceptance and application of ASTM standards for sales and purchasing.**
- **NIST standards for accurate weighing have high priority.**
- **Recognition and acceptance of the value of the ASTM consensus model in avoiding disputes.**
- **Countries other than USA and Canada use their own domestic standards.**
- **No mention of Sarbanes Oxley as a driver to employ ASTM.**

There is still an uncertain feeling from many in the industry about how ASTM standards affect their company. The feeling of “these are a burden to my operation” still exists.

Normal requirements for producer to customer within Australia (domestic sales) utilize AS methods.

As a consultant, my target clients are coal companies and electric utilities. These companies primarily use ASTM and NIST Handbook 44 above as they are THE STANDARDS for coal contracts.

ASTM and NIST standards are most relevant to the work I/we do. The ASTM standard gives guidance to sampling and analysis which is a large portion of our business.

NIST standards are of primary importance, since the current company philosophy appears to be that accurate measurement for weights of coal purchased is the most important factor in determining the cost of coal.

Weight is a major factor in determining the cost of coal purchased and as well as freight charges. Weight of coal unloaded to stockpiles is also important in selecting destinations for unloading shipments, for blending purposes and in measuring plant performance. Weight of coal received and stockpiled is also used in reporting to various regulatory agencies. As far as I know, there is currently very little active participation by the company in NIST or other any other organization that regulates the specification, testing and operation of weighing devices. In most cases, State Law based on NIST Handbook 44 regulates how weighing devices are selected, tested and operated. My theory is that management determined that it is more cost effective to let their Coal Suppliers bear the cost and responsibility of providing "governing weights". Testing and operation of weighing devices are normally monitored and/or certified by State Agencies.

ASTM D05 Standards are referenced in all contracts and other short term agreements for the purchase of coal. Such Standards cover equipment and procedures for coal sampling, sample preparation and analysis. The company philosophy appears to have changed in that there's no participation in the activities of D05 with respect to developing, updating and approving coal sampling or sample preparation standards. Again, I suspect management decided that it is more cost effective to utilize samples collected and prepared by their Coal Suppliers. As far as I know personnel still periodically monitor equipment and procedures used to collect governing samples at all shipping points. This may also be done by an independent third party organization. It should be pointed out that a representative does routinely attend and participate in the activities of D05 Committee and Subcommittees responsible for coal analysis standards.

ASTM standards while extremely important to contractual matters are somewhat less important (than EPA) to operations as no direct monetary damages or penalties are imposed for violations.

The wide use of ASTM standards setting contract language. ASTM should be concerned, however that many of these people are not technical in nature and when faced with prolonged delays in getting standards on the books and language that is difficult to interpret, are now being approached by historically non-technical organizations such as the American Coal Council to start drafting standards for use in contracts.

For all routine work, ASTM International is the only method authoring organization recognized in domestic coal sales and purchasing. Although at times purchasers and sellers of coal use the reference to ASTM, but do not know specifically what is required, it is the only recognized methods organization for domestic coal transactions. My company's management supports personnel involved with ASTM and ASTM initiatives and ensures that personnel are advised about ASTM milestones in methods development.

The majority of my consulting has been focused on sampling and analysis for domestic clients shipping coal to or receiving coal from domestic customers. Their contracts are all governed by ASTM standards.

ASTM is the most relevant to the coal industry**.** ASTM are the most referenced coal standards required by our Coal Sales customer base.

ASTM standards are most often used by my company due to the wide acceptance in the markets we serve.

Most contracts are written around ASTM Standard Test Methods, Practices and Guides for pay analyses. When we tell our customers we are using ASTM "as written" there is no need to go thru long dissertations regarding reliability of our methods.

ASTM standards are used most often for coal fired utilities because they are created by a common process among producers, consumers and independents. Almost all coal contracts specify ASTM in the USA. The

consensus process leads to standards which increase communication and reduce incidents of disagreements in methods and practices.

Nearly all customers have contractual specifications on ASTM methodology. Like wise our in-house and third party labs are expected to do the same (i.e. adhere to ASTM approved sampling & analysis procedures).

Use ASTM standards for determining coal quality for payment purposes. Fuel cost is our largest expense so they are of utmost importance.

Our lab runs the pay samples for the coal we purchase at the power plant. ASTM is a common Standard recognized by everyone. As long as we keep our procedures in line with the ASTM methods, the mine owners readily accept our analytical results. Adhering to ASTM procedures increases our Confidence in our own analysis results also.

I am answering the survey relative to my area (Fuel Procurement) as opposed to the entire Company. The primary reason for my first choice is both acceptance by management and ease of obtaining the standards and procedures. Also most of the consultants we work with utilize the ASTM standards extensively.

The US coal limestone, and cement industries accept ASTM methods as the agreed basis of payment and the primary way to ensure comparisons between two parties are equivalent.
Contractual agreements with customers require adherence to ASTM standards.

ASTM standards are referenced in most if not all coal contracts.

As a user, specific methodology is typically list in contract; therefore we receive the most value from ASTM.

ASTM are referenced in all of our coal contracts to determine coal characteristics for the basis of payment.

Contracts in our market are customarily based on them.

ASTM standards (D05.06) are used for contractual agreements between Buyer and Seller.

Mostly determined by our customers contractual agreements with their customers.

Recognition (of ASTM) in the marketplace and relevance to needs.

Recognition in the market place and acceptance by commercial entities.

Recognition (of ASTM) in the market place. Ease of acquisition and use.

Recognition (of ASTM) in the market place. Acceptance by management.

Recognition in the market place and acceptance by management.

ASTM has commonly accepted recognition in the market place and acceptance by management.

ASTM standards are the most recognized throughout the US coal industry, and are an integral part of the services my company offers/provides to coal consumers, coal shippers, coal handlers, etc.

Forms basis upon which commercial activities between coal producers and customers are conducted.

ASTM is used and accepted by almost all our customers.

It gives us a basis for justifying disputed results and guidelines for settling them.

Regulatory

- **ISO certifications accepted by non USA producers and users.**
- **One federal agency (OSM) recognizes and applies federal requirement to use ASTM standards where available.**
- **Utilities unanimously cite EPA requirements as mandatory and ASTM as optional or not relevant.**
- **Mandatory fines arising from exceeding EPA recommended limits considered more important than contractual obligations.**

ISO 14001 is used extensively for Environmental purposes.

My agency is a federal (OSM) and we are mandatory required to use ASTM standards where available. This regulatory agency is responsible for collecting reclamation fees on coal mined and shipped. We are required to use ASTM standards where applicable to define what is coal and some other tests to determine moisture and ash. These tests are used by the industry and we want to make sure that these are correctly applied. ASTM standards have been very helpful to me in evaluating these activities. OSM regulations have identified which ASTM standards should be used for compliance.

We use many standards, but I rated EPA and OSHA the highest because these are government enforced standards that are always the highest priority in day-to-day operation of power generation facilities.

EPA is required by the federal (US) government.

I assume EPA stands for the Environmental Protection Agency, so by definition, their standards (mandates) must be followed.

EPA exceedance SOx, NOx, and PM's violations generally bring fines or other civil penalties and therefore are viewed as critical by the operations.

Our utility has to follow the standards that the EPA sets for sampling. Air quality standards are the most important. These standards are accepted throughout the market place and by management.

We are required by law to follow some EPA standards for water, air and other environmental related items.

EPA is the organization that set forth the regulations with which our clients are required to comply. To the extent that ASTM and ISO regulations are adopted by reference by the US-EPA, our clients comply with them also.

EPA has the accepted standards for our certification use by NELAC.

EPA, because it is what we are regulated by and it changes every day.

EPA standards re probably Number 1 for the folks in Power Plant operation. Of course, they were important to Fuel Services in that coal, oil and gas had to be purchased with properties capable of meeting EPA emission requirements for each power plant.

EPA and some ASTM standards are required for environmental permit testing.

EPA Environmental department then the Engineering department (because this means new equipment), then the Lab and Plants.

EPA because of regulations

EPA because of regulatory specification.

EPA because, I work with environmental compliance issues related to industry.

Engineering, Technical & Research

- **Recognition of the responsiveness, technical credibility and adaptability of ASTM standards by coal professionals, world wide.**
- **Less recognition of the technical value of ASTM standards for engineering and regulatory purposes.**
- **Recognition of the value of ASTM standards in research, education, and training.**

Generally, Australian Standards are the most relevant to our laboratory. However, there are gaps in techniques and ASTM can usually supply a standard method. The advantage of ASTM is the expertise and the scale of the effort put into standards development. We adopt (or more frequently adapt) methods from the ASTM.

Due to the size of ISO and the time taken to adapt to new technology, we did change to use ASTM standards for such things as the High Temperature Furnace method for Sulphur analysis and for the instrumental proximate analysis. Since we have standardized our equipment in NZ the ASTM methods have been an integral part of our ability to become an approved laboratory operating under an endorsed ISO 17025 standard. For ASTM, I would have to say that historically the organization has been far more accepting of new innovations in industry and laboratory technology.

I have found that ISO standards reflect greater depth of engineering, and typically encompass a broader scope. In general I find the European-based standards superior. This is true, in my view, regards: boiler efficiency (DIN-1942 vs. ASME PTC 4), calorific value of coals (ISO vs. ASTM) and flow meters (ISO vs. ASME).

ASME standards are required by the pressure vessels act, and are used extensively in the corporation for that purpose

We are involved in large construction projects at this time, and the ASME code is most relevant. As far as I know, the ASTM standards are only used by my company as pertains to coal sampling and analysis. That is very important, but not as important as EPA and ASME “standards”

ASTM standards are known nationally and some internationally by most industries. Of the standards listed above, the ASTM standards are updated more frequently and compiled in easier to use more organized compilations

ASTM methods on coal and coke are strongly accepted and recognized in North America, where the majority of our clients are based. The majority of the ASTM coal and coke Standards were developed a number of years ago and the Canadian Coal Industry has historically been supportive of them and continues to do so at the present.

In the US ASTM standards that we use most in our work are related to D05 and are universally accepted. We have done a little work for Electric Utilities in Eastern and Western Canada and the D05 standards were used by all plants involved.

ASTM is the most widely recognized leader in standards and we push client to understand what these standards mean to the daily operations.

We are a USA company. Most US companies adhere to ASTM in our line of services, coal & coke testing. ASTM methods are the accessible, most reasonably priced, and most meet our needs.

ASTM standards are the industry standard for coals and cokes. They are relevant to the information required by government researchers regarding the quality of these products. Standard methods are readily accessible to all members of the laboratory from purchased CD volumes. Member access to the most up-to-date standards is critical for the laboratory to maintain its credibility and reputation as a high quality lab and service provider.

ASTM standards are used to determine coal characteristics for power plant consumed coal for boiler performance etc.

The industry understands and accepts ASTM standards and definitions for characterizing fossil fuels and lime based sorbents.

ASTM, because we need to be comparing apples and apples, i.e. equivalency of test results between in-house and external testing laboratories.

As an electric generation utility use coal as the primary fuel, ASTM standards are used to ensure the Fuels Lab is operating correctly. We also use them to perform gross sample collection, ensure our sample systems are operating correctly, and as a guide for bias testing.

The vast majority of equipment and services my organization provides revolves around ASTM Standards.

Clients receive certificates notifying them that the test(s) were completed with adherence to ASTM Standards. Management stress the use of ASTM standards in our laboratories.

We use ASTM standards as the guidelines for all of our lab and field work.

I receive the most value from ASTM because these standards are accepted in industry and really have very little competition except in new technology and technology advances.

ASTM, however since coal testing rarely requires the laboratory to be certified I do not feel an urgent need to be an active participant. My primary responsibilities are no longer related to coal, which account for < 5 % of my time.

ASTM standard methods and practices are an essential tool used in maintaining control of our laboratory operations. We find that by operating under the standards any arguments over analytical results can be quickly resolved because we have the evidence to prove our processes have a sound basis. It also assists when things go wrong, in that any failures are quickly isolated and can be rectified.

ASTM standards are used to advise clients on methods of conducting operations, testing, and investigations.

We are primarily a fossil fuels research center, and all of us 'grew up' with ASTM as our most valuable standards source.

I used ASTM standards in teaching my analytical and coal chemistry courses.

ASTM standards are used for training people.

ASTM standards are important for product development.

In which organization(s) do you participate on a regular basis?

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- **SME more relevant to mining.**
- **ASME more relevant to fire side chemistry.**
- **ASTM and ISO wealth of sampling and analysis expertise and knowledge.**
- **ISO and regulatory participation because of requirements for accreditation.**
- **Attendance at meetings of and to a lesser extent participation in SWOs with common interests (e.g. ASTM and ISO) is discouraged.**

NELAC is the standard developing body for the national accreditation that we hold for environmental testing.

Local National Standards organization cater for the local National Coal Industry requirements and are also strongly linked with ISO, which is the standard to which the majority of our customers prescribe to use.

Australian based and I can be present; I can also attend ISO meetings – I cannot attend D05 meetings.

I am a Mining Engineer. My #1 affiliation is with SME (Society for Mining, Metallurgy, and Exploration, Inc).

We have gleaned many new, more up-to-date methods, concepts, and procedure from our participation in ASME PPEC committee. Most of this new science has had to do with power plant unit chemistry.

My business was primarily sampling, testing, inspection, and advisory. The value added impact of standards (ASTM and ISO) in sampling, inspection and testing is primary. The impact on Advisory activities tends to be less because this often requires thinking “outside the box”.

ASTM and ISO because as coal quality project leader for the company, coal quality and related issue plays and important role in my daily activities. The measurement and management of coal quality issues plays an important role in our companies financial health as well. Fuel and purchased power is the single largest expense for the corporation. Coal, and coal quality plays a larger role here as availability of lower cost coal units is imperative to control costs generated from using higher cost natural gas or import replacement power from other utilities.

I would rank my involvement in ASTM and ISO/TC 27 at the same level since both Standard Bodies are important to myself in terms of training, career progression and participation. Even though my organization utilizes mainly ASTM methods on coal and coke, ISO methods are equally important and some of them are actually being used.

ASTM and ISO because of contact with other experts / professionals interested in common issues and from who knowledge / understanding can be gained.

My activities in ASTM and ISO are interrelated. They allow my company and me to participate in the development of the standards which will be used in the industries that we service. This provides us a means to give something back to these industries on some form or fashion.

The ASTM standards impact almost all aspects of the business. Therefore, it is important to participate in the development and maintenance of standards so they are current and acceptable to the coal industry. They must be consensus standards.

ASTM is the only forum I can participate. ASTM relates directly to my job performance as I dealt with US bases that use coal. I had no international participation

ASTM because valuable information and insight shared within the group as well as improved function for standards that are used on a daily basis.

ASTM, D05. The meeting notes and minutes are extremely helpful. I don't get to attend the meeting, but find these notes helpful. Maybe future meetings could be via a web cast with telephone conferencing.

Knowledge of ASTM methods is essential for my job. All of our clients assume that we know ASTM fluently. If there was any question that we did not know ASTM, our clients would look for another organization to handle there needs.

I value the different viewpoints (ASTM) that go into developing or reshaping a standard and getting it to a point where everyone has a useful tool.

Being fluent in ASTM methods is very valuable to clients in the laboratory and field work, i.e. sample collection.

ASTM standards are an integral part of the services my company provides in the US. As a result of this, and based in my own assignments, participation in ASTM has great importance and value.

Most of the coal sales agreements we operate under are written around ASTM Methods. I learn a lot from my contacts in the meetings and working on standards.

I can directly participate with other experts in drafting the language for a $75 membership fee which gives me the published standards for D5.

ASTM: because I have responsibility for buying hundreds of millions of dollars of coal for my employer, and I am accountable for obtaining the correct value for the dollars spent on fuel expense. I have to be certain that the measurements of quantity and quality are correct, accurate, precise, unbiased, and that my company receives the value of the coal that the dollars were spent on. My coal contracts are written to conform to ASTM standards, and in most cases higher levels of measurement with remedy for damages, non conformance to the standards, when the standards are not detailed enough, they have gaps and need to be more precise.

All our contracts are based on sampling and analysis in accordance to ASTM standards. D05 TG's enable me to work together with our customers to keep the standards fair and applicable to all concerned.

I am the person in our organization that is responsible for the sampling and analyses of all coal purchased. By using the standards in D 05 we hope to take the proper sample and analyze it so as to comply with environmental regulations and to get the quality we are spending millions on.

ASTM provides the basis for all quality comparisons I develop. These comparisons provide the reasoning for most all recommendation I make to the contract administrators.

To contribute hard won knowledge and experience to the evolution of our industry. To keep myself and my organization informed of current trends and issues

My organization uses several ASTM standards to define methods to determine moistures. This is because coal is taxed for the reclamation fee. Different moistures are tested to provide deduction for excess moisture which is the difference between total and inherent moistures.

Quantities defined by ASTM standards are the primary design criteria for our company's products. It is my function to ensure that the product designers understand the meaning and limitations of these standards.

I obtain most value through participation in ASTM, my first choice above, because of the relevance to the industry served by the products and services offered by my company.

ASTM participation keeps me and my organization well informed in changes to standards. The interaction with the wealth of experience that is present in each meeting is a huge asset.

ASTM are the most up to date standards.

ASTM because, I learn the reasons behind the method that was developed. I learn why a section is being questioned, and why specific wording was selected that may seem confusing.

ASTM because, as an instructor, I can impart to my students the direction the industry is headed from an analytical perspective.

I deal with coal quality and boiler performance issues on a daily basis. Most of the information I use in trouble shooting and solving problems comes from ASTM standards.

ASTM because of networking. Having contacts from other parts of the industry helps to gain perspective and confidence.

ASTM Standards governs the industry that our company services. Our equipment and products are designed to meet a standard criteria that keeps a level playing field across the industry.

My employer uses petroleum coke as a raw material. Because of the use of petroleum coke I participate in D02 (subcommittee 5). I joined D05 because of the similarity of standards between coal and petroleum coke. Several D02 standards for petroleum coke started as D05 standards. In several D02 methods, D05 standards are referenced.

Being up to date with the standards allows me to inform my customers or potential customers about changes that may affect their contracts or operating procedures.

I am a member of D05 and D02. Our laboratory is actively involved in validation and RR studies for standard development. We are also involved in new standard development in D02. Our dedication of time and resources to ASTM activities is critical, not only for the benefit of ASTM and its users, but also for personal knowledge and growth. ASTM participation has a great impact on our recognition as a government research lab of knowledgeable technical experts.

The participation of our people (in ASTM) is critical for our organization. Providing analyses according to standards is what we do.

ASTM most accepted within our endeavors. Products most appropriate and concise.

My career work in fuel chemistry was enhanced tremendously by the interaction with the ASTM D05 professionals primarily responsible for the characterization and analysis of fuels and products derived from fuels. The information and assistance I received from the D05 Committee and its members was vital in my university research and teaching. Attending other professional meetings such as ACS, coal conferences, etc. was important, but the “education” I received by attending D05 meetings was essential for my other activities.

I have the ability to interact with fellow Petrographers and determine one on one how and where standards need to go in the future.

Where do you obtain the highest value from participation in D05?

- **Interaction through face to face discussions fundamental to standards development.**
- **"Book" of standards valuable for those that cannot attend meetings.**
- **Opportunity to increase participation for those with physical limitations through virtual web based tools.**

Although I seldom attend the meetings, when I did participate, it was the most helpful

Although I haven't attended the meetings in several years because of changes in work responsibility I found them to be the most meaningful as far as being able to push for progress in standards development.

Face-to-face discussions are important.

Interaction among the colleagues at the meetings has given great value towards understanding issues related to coal quality measurements and sampling. The meetings offer the opportunity to meet and interact with coal professionals from many different facets of the industry creating a great view on perspective.

Taking part in task groups is also an important function as one is able to interact and change to course of standards development. The coal that our corporation uses is of the lower rank and is not often properly represented in the standards as, the variability of the source is much higher

Because of my physical limitations it is difficult for me to attend meetings. Therefore the free copy of the Standards is most beneficial.

This is only the start of my second year membership, and with the basis of the organization being in the US attendance at ASTM meetings is a big ask. I do respond to questionnaires and provide my thoughts when I feel I have something of value for consideration.

My business is related to coal & coke testing, so use and participation in ASTM D05 is important. The ASTM book is valuable for test procedure and adherence. The meetings are least important. In this day and age, most of the "work" is not accomplished at these events.

What other standards are used by your organization?

AASHTO
BSI
CEMA
CN (China National)
DEP
DIN
IEEE
IP
JIS
JORC (for reserve reporting)
KS (Korean Standards), MSHA
National Weighing & Sampling.
NEMA
NERC
NIOSH
NIST
OSHA
OSM
SAA Standards Association of Australia
SEC (regulations, accounting standards)
UOP

How can D05 maintain and increase active participation?

- **Investigate impact of ISO certification(s) on use of ASTM standards**
- **Examine relationship with ISO.**
- **Pursue training inititiatives.**
- **Promote virtual (e-based) participation.**
- **Provide concise well organized web-based summaries of standards.**

Get involved with ASTM certification. Not like the ISO program, but more practical. I think many labs and organizations get ISO registered or certified as a marketing scheme or because some other organization is forcing them to do it. Hopefully ASTM could be a body that could simply accredit based on test adherence to ASTM standards and competency, not all the bells & whistles.

If certifications were required for the tests under D05, we would have a higher interest in current activities at D05.

Some labs have to be ISO certified maybe labs the run coal analysis should have to be ASTM certified.

Merge ASTM with ISO

Maybe some value if it's a step towards harmonization of North American and International standards

Hold ISO-ASTM joint meetings to merge best practice and make both standards more accurate detailed, precise, in measurement standards.

Promote correlation and cooperation with ISO standards and standing committees of relevant nature

D05 does need to be represented on (or taking a lead role) international standardization activities (where appropriate). Joint ISO-ASTM standards development is desirable. I realize that copyright issues may cause difficulties.

Assess the best ISO standards improve them and make them ASTM standards.

Work toward making all ASTM standards ISO standards.

I would believe that International experts would be good to add.

Participation in ISO activities at all levels.

Training and technical conferences on subjects related to ASTM, in particular Coal & Coke is probably the best way to get additional interested bodies ultimately involved in ASTM. But to make it high quality, you're going to have to make it something that attendees will have to pay for. And, just as important, you're going to have to pay the instructors. I've been involved in this type of thing for many years. Maybe we can discuss it sometime. Why not have training classes for technicians too – to learn how to do tests properly instead of (for example) learning quickly from the guy that's retiring.

Hold specific training courses on the standards used in the analysis of coal samples.

From my perspective, the biggest objective is to instill a degree of professionalism in the people that use D05 standards on a daily basis. Standardization has had the impact of using less talented/ educated individuals at the bench level. Standardization is very necessary in the industry but with that comes the responsibility to maintain a level of professionalism at the bench level.

I appreciate receiving the Technical Planning Survey — I feel that this evaluation is needed. I have been in ASTM D5 for thirty years although have only attended one meeting in the last ten years (use to be a regular participant). I run a small international consulting engineering firm in the coal industry (thermal coal drying systems) with a commercial coal analytical laboratory. Over this thirty year period I have had an intimate view of the impact of standardization on coal laboratories. Specifically, the competitiveness of this industry in conjunction with ever increasing standardization has had a major impact on the salaries of bench level technicians with a corresponding decrease in the professionalism within this industry. Furthermore, the competitive nature of this industry in conjunction with the demand for shorter turn around times has resulted in short circuiting ASTM procedures. Specifically, today's technicians know less about what they are doing than 25 years ago. I consider the above issue as more important than introducing new standards. I support more ASTM training seminars, short courses, etc with the objective of increasing participation at ASTM Meetings. Maybe ASTM meetings should be split between standards development/review and educational training sessions.

Web cast meetings

Even Holding ASTM meetings in countries that use ASTM Standards would take a lot of top end ASTM leadership to pull off and I think should be preceded by some successful efforts to achieve a baseline level of foreign participation at the task group level through virtual meetings, and email. ASTM has done an excellent job of transforming itself into an e-organization especially electronic balloting, standards tracking, standards on disc and virtual meetings, but the forum concept needs some ground up redesign which is why I mention use of email.

Invite a colleague. Also, we had a fairly successful membership e-card and hard copy advertisement campaign with about 16 new members as of 25 January 2007.

Possibly consider, if appropriate, collaborative internet-based software. An example would be Basecamphq.com, which we use for our internal corrective action reporting.

Up-to-date listings are obviously necessary (web based?)

Web site for advertising.

The organization of the entire Volume 05.06 Standards book could use some work subcategories, etc. This is becoming less relevant with electronic searches, but still is a problem.

Standards are "buckshot" all over the book. It is sometimes hard to know when there are alternate choices or if you have identified all standards relevant to your particular situation.

Doing a better job of publicizing a chronology of changes to existing methods would be valuable.

A worthy goal would be to simplify standards as much as possible to increase the possibility for the "non-technical user" to better understand them.

Generally, my suggestion to involve and keep members interested is to treat them like customers (which we all are) and simplify the processes and ability of the customer to find out and familiarize us with what is happening with the relevant methods for our business activities.

A note of recognition to TG participants forwarded to all active members, maybe a picture to be placed on the web site.

It is the responsibility of D05 to educate the stakeholders on why their participation is beneficial to their business. Such as, documented incidents where a method specification benefited or was detrimental to a specific industry and the potential costs associated.

I think identifying technical experts would create more problems than it would solve.

Recognition of individuals' efforts is important.

Rewards for active participation are also a good thing.

Committee D05 needs to look at the age of its active members and find some way to recruit and encourage younger members.

How can D05 promote the benefits of ASTM standards to industry?

- **Direct contact with decision makers at the top levels**
- **Proactive web-based newsletters to industry**
- **Presentations at coal organization conferences**
- **More public exposure ASTM standards with respect to application and advancement of coal technology.**

Direct contact with individuals at the top might be very beneficial.

I have no idea about priority, but I think they may all help. I think the top people in ASTM need to find a way to communicate with the top managers in the coal and electric utility industries that D05 Standard are not as good as they need to be because companies do not think it deserves a higher priority than it gets.

These are all "feel good" activities. Someone representing ASTM should be working with the management of the companies using and depending upon the standards. These are the people who are placed at the risk of a missing or a bad standard. When I say management, I am not talking about the first and second levels that commonly attend the ASTM meetings.

Until management of organizations in the coal industry can be convinced that there is a real need to have staff members with "technical expertise" in coal sampling, sample preparation, analysis and other characteristics of coal covered by D05, nothing significant is going to happen.

We believe in a focused broad based ASTM engagement to educate, on a top management level, all classes of producers users and consumers, as well as government agencies, and legislators, Federal, State and Local about the value added and benefits derived from technically valid standards in top level decision making as they relate to facilitating trade and commerce including such things as establishing the basis for MOU's, reducing legal and accounting costs, improving interchangeability, bettering the uniformity, accuracy, and

reliability of inspection and testing, better laboratory accreditation, and prevention of prostituting standards as trade barriers.

I think ASTM needs to cultivate some closer personal ties between top management of ASTM and the management of companies listed in their profiles in standardization strategies aimed at developing better internal appreciation of technically valid standards in management decision processes as well as at the production floor level in design, quality management, and marketing. A goal of increasing the list of nine such companies up to some level like 100 companies within 5 years should be set and aggressively pursued.

Again, you must get to the management of companies depending upon the standards. None of the above does that.

You are missing the concept of promoting D05. It needs to be promoted to people in the coal industry that are not subscribers to Standardization News, that don't read World Coal, or pay McCloskey's excessive subscription prices. The people you need to reach attend conferences like: EFBC, NCCI, RR conferences, and to some extent the expensive ACC conference. ASTM should have a member, user of the standards speak at these conferences about the practical use of the standards in writing, administering and accurately measuring quantity and quality of coal under commercial contract terms, from their experience in sampling, weighing, and testing and use of the standards . Speaker would address how to use the standards in every day commercial use, and the consequences of just saying ASTM standards apply Vs specifying exactly which ASTM standard in detail, big differences in coal sampling between standards equals big differences in accuracy and dollars exchanged in contracts. This approach would share the good and bad experiences with other users and enlighten those users how best to use the standards and why they should participate in the making of the standards.

My assumption is that those who read ASTM news and participate in the meetings already understand the importance and benefits. D05 needs to place themselves in front of the people that are not involved. The head of Consol needs to know why the standards are important. We don't need to educate those that attend. Articles (and other forms of education) need to be placed industry publications that explain the benefits of developments. Individual methods might be highlighted, or new method development might be detailed.

Contact ASTM standard purchasers and make them aware that they can play a role in new standard development. Or a North America wide tour by a team of D05 members to spread the word. Perhaps volunteers could visit industry in their region to "spread the word".

Solicit participation by targeting companies/organizations in areas where the specific help in needed or there is a deficiency. You can't always ask individuals or companies to do time-consuming activities for free. In the world today, everyone is busy, and they will take care of paying customers first. Voluntary work usually comes last or you end up not having a job.

A regular (quarterly of semi-annual) update sent to all coal executives from a database to both inform and raise the ASTM profile.

Perhaps giving relevant seminars at coal organization meetings such as NCTA and ACC – just make sure to make presentations practical, interesting, and entertaining – not technical and dry. Remember these are coal buyers and sellers not chemists. Explain the reproducibility limits on the typical commercial (between coal customer and supplier) analyses including some trace elements such as mercury.

Presentations at coal industry conventions such as Coal Prep., EPRI.

A public D05 web site featuring articles about coal, coal utilization, standards, people, paid ads, and computational tools.

Create an e-mail newsletter that the industry can subscribe to with bullet items for a summary of each subcommittee's method maintenance status or latest activity, including specifics about changes for each method within a subcommittee. This could be a semi-annual endeavor after the semi-annual meeting. In my opinion this is the single greatest desire and need to participate in ASTM i.e. to be able to stay current with the methods relevant to your area.

Examples of excellence in adhering to ASTM standards with visits to locations

I think there is more to be gained by promotion within the media that the industry read. I'm not sure who in the industry reads ASTM Standardization News. You obviously need to target the appropriate individuals. Defining these individuals and how to do that is not so obvious.

Perhaps publishing and presenting papers showing how ASTM standards have helped establish good business practice for companies, by these companies would be good as mentioned. These could be in North America or globally. I have never seen a paper(s) including this that was geared at showing the merits of the standards being used in an industrial application. Usually they are just mentioned in the method, but I am sure there are papers that could be put together by member companies.

Our members need to write more about what they do. There is currently no forum that encourages the members to do this. Our members have a lot of experiences and information about our profession that is not in print.

Additional publications should include popular magazines like Business week, Time, and News Week, even Popular Mechanics, as well as newspapers like the Wall Street Journal, Investors Business Daily, The Financial Times, the science and business sections of the New York Times, and selected trade journals read by top management in various industries outside the coal industry. Technical journals and magazines published in other major industrial countries in their own languages ought to be included.

We think this effort should be expanded to include participation in or sole sponsorship of semi-technical TV shows that could be broadcast on the Discovery Channel, for example, as well as Specials of more general interest often broadcast on Sundays or shows like 60 minutes. In this day and age such shows could also be distributed in DVD media for viewing by smaller audiences at technical meetings or as part of seminars and training sessions.

Articles in Coal Age, Mining Engineering, Power, IEEE, Power Engineering, ACS, and Electrical World (increase awareness of utility engineers and managers).

Mining journals (e.g. SME), American Coal Ash Association (ACAA).

Place some articles in the CPSA (Coal Preparation Society of America) Quarterly Journal.

Articles in coal related technical journals such as Fuel, and in technical magazines directed at Mining and Power Plant personnel.

Perhaps publishing and presenting papers showing how ASTM standards have helped establish good business practice for companies, by these companies would be good.

D05 should update information in standards concerning significance and use.

Significance and Use is mandatory for Test Methods, Classifications, Practices and Guides, but not for Specifications, or Terminologies.

- **Indication those involved in coal trade are not convinced of the value of significance and use.**
- **Important to recognize distinction of significance and use with respect to an agreement between individual parties and that relating to rationale for and most common uses for a standard.**
- **Existing significance and use statements need to convey to non lab types the relevance and impact of the standards with respect to their needs.**

Cons

This has not been an issue in my department – Coal Sales.

ASTM Significance & Use statements are not all that significant or useful.

I think it would be a good educational tool to include some comments on these lines. The only problem I would see with doing this would be the extra reading that would be involved for one who is looking only for the details of the method in order to carry out the test.

No. The use of the results are up to the parties that would request those methods be followed. This is what classes such as coal combustion are for. D05 should publish a separate document explaining the significance and use of the methods, maybe an Appendix in D121. Significance and use is only an opinion. It is important to know what materials were used for developing the precision and bias, but I can apply that method to completely different materials and achieve an acceptable outcome.

The updates should be done as necessary. How results are used are more within purview of the contract/specification, but known misuses/limitations should be addressed in the method

No. D05 should provide the tools. It is up to the user whether or not and how to use these tools.

Don’t necessarily agree with this, seems to border on interpretation through consultation which may or may not be a goal of a given laboratory.

They're looked at every 5 years, if not sooner. If it ain't broke, don't fix it.

I haven’t seen the need in TG’s I work on, unless maybe for Sarbanes-Oxley? Sometimes you make more trouble by updating than by leaving things alone.

Pros

We need to supply more information on the use and interpretation of ASTM Methods.

Are we meeting the needs of the coal industry if standards are written in language that many in the industry do not understand and thus do not use or use incorrectly due to a misinterpretation.
ASTM needs to do a much better job of informing pertinent individuals how ASTM standards apply to their work or limitations of use or how NOT to use the data.

There seems to be very little specific utilization dialog/technology incorporated into our methods, except what is minimally summarized in the scope or significance and use sections. Our methods seem to concentrate almost wholly on how to run a test

Yes, technologies and uses change over time.

This will provide a consensus opinion on the impact and use of the standards rather than relying on a potential erroneous interpretation.

I agree. Emphasizing the impact of the Standard and how the results are used provides me with a better understanding of my product and its' evaluation and marketing.

I agree with the effort to emphasize the impact of the method, possibly emphasize the use of the method in industry, and state examples of how the results are used w/o making any recommendations or lead the reader to believe that there is a recommended use.

Although it is not practical have an exhaustive list, the most common applications of standards and results would be helpful.

This is particularly important for non-lab type folks that need to interpret data for contract and process control purposes.

I think this is a good idea. Sometimes it is not clear to new users of standards what standard should be used and what the analysis results mean to them.

Yes. This would definitely assist in making the users of the standards more aware of the significance and importance of what they are doing and the consequence of their results submitted to their customers.

I would also like to see in each standard a typical example and a typical interpretation of these results.

Yes, the standard should clearly state limitations of use and conditions to using the standard. A lot of the standards have a rich history of development that would not be readily apparent to individuals that lack the historical perspective and or experience.

Agree. Especially on how the results should be used and its limitations. The concept of 95% confidence intervals and the fact that if you shorten up the analysis times you run the risk of differing results. Possibly some short explanations of the reasoning behind the analysis steps would help the uneducated. Some of our D5 Methods are too open to interpretation by the uneducated.

Yes, I believe that would provide additional information for the users of the standards.

I agree (results can be misinterpreted and misused (i.e. applied inappropriately).

Significance and use statements should be reviewed for updating whenever as standard is up for reapproval (or revision).

In certain methods I would like to see a more thorough description of the chemical process involved, such as in D 6722 significance and use. This may help me to apply the method to an alternative material.

D05 standards should address quality management and assurance.

- **Lack of consensus of those in coal trade concerning the value of quality elements.**
- **Concern about uniform application of QA/QC in coal trade and across standards.**
- **Follow the lead of and take part in continuing review of ISO 17025.**
- **Set a common standard that provides goals without mandated criteria but does provide examples of common industry practice.**
- **Allow latitude for specific standards to include more rigorous quality elements where appropriate.**

Cons

This has not been an issue in my department – Coal Sales.

Again I agree with this statement. There have been times in the past when the marketing arm of a coal producer, agrees to provide what can at times be almost impossible to provide. Some understanding on their behalf would be fruitful but how you get marketing people to look at these details can be difficult.

Again, only if this is appropriate to the method. Such statements if inappropriate could get us in trouble in court.

I agree. I've been a member of D05 for quite a while, yet I know that I am not an expert by any means. I'm on the Seller end and I know that QM and QA principles and practices help me to grow in my knowledge and understanding of the bigger picture relative to my product.

While it is the goal of every lab to produce high quality results, prescriptive QC practices that are not uniformly required by coal producers and users could prove to not be helpful. For example in the regulatory driven environmental testing arena, mandatory lab accreditations and use of prescriptive methods are the norm. I think that if ASTM were to prescribe QC practices that it is unlikely that all buyers of testing services would require them uniformly, since there is no overseeing regulatory authority.

This development would be welcomed but probably quite difficult to establish.

Yes, this needs to be mentioned but it should not overwhelm the standard method.

Not sure. It seems to me that just about everything we need is already in ISO 17025. Why not put our efforts into continuing to improve that standard rather than start over with a new one?

That's what the Referenced Documents section is for.

Does it mean they should detail what analysis to use when a referee is called? I think that is better left in contract language.

Does it mean that every standard should include someone's favorite checklist for determining if a lab or sampling system is in compliance? I would disagree with that. That would cause more problems than it solved.

Partially agree. As a representative of an equipment manufacturer, I think that the direction given should be more goal oriented and focus less on mandating specific criteria. To become too specific limits the creativity of OEMs and impinges on the ability of OEMs to develop new technology. If goals are set OEMs will be able to exercise some flexibility in meeting them. This should also result in a wider variety of equipment available for use, which I believe would benefit everyone.

Yes there should be some direction on quality management and quality assurance, however if the users and producers have the proper QC manager then there would not be a need.

Pros

For international consistency it's important that ISO 17025 be recognized as the umbrella standard.

Yes; D4621 and D 4182 are important documents, any information specific to coal / coke sample handling, coal / coke sample preparation, or to the coal / coke laboratory should be included in any document designed to replace these two documents.

D05 should include general quality management. Non-mandatory examples of common industry practice should be provided. Minimum quality assurance practices should be mandatory.

We should spell it out, either in every standard or have a separated standard that is referred to, so that all labs do similar things for comparison with one another.

Perhaps, but not extensive write-ups included in each standard. A summarized, very concise set of guidelines specific to the method would be useful, but can always be referred back to a separate ASTM designation included in each volume.

Currently my company is going through a major overhaul as to our program. Guidelines in ASTM would have provided a foundation. I agree this type of standard is necessary.

Yes to direction of QM and QA for test methods efficacy, but I don't know of any need to differentiate between producers and users assessments.

Agree, elements must be auditable for accountability.

Yes, the prime motivator for ASTM sampling and analysis of coal has been for the presentation of reliable coal quality data for contract purposes, and performance enhancement opportunities. These remain to be the main drivers behind the use of the standard practices.

Yes, although I believe that by creating a separate standard to address quality assurance principles, all standards could reference this document. This would prevent multiple revisions, when necessary.

I believe guidance on QM and QA could be beneficial. If there was more of a standardized approach industry wide, that could benefit auditors, contract administrators, coal buyers and other people involved in transactions between producer and user.

Yes, this is extremely important , but only if the QM and QA are based on facts, from Dr. Edward Demming's " Out of Crisis" Total Q M and statistical process control, control chart analysis, etc… like Sampling ratios.

Does it mean we should keep the standards on lab and sample system inspection? Does it mean they should have precision and bias statements? I would agree with both of those statements.

Such standards should, in theory, be utilized. It might be valuable to do a survey within the "users" to determine the value of these procedures. As stated earlier, I think everything possible should be done to simplify standards.

Yes. In particular the significant of margin of error or accuracy of results given the method employed should be emphasized. It should also be emphasized that when procedures fall below certain levels, the results generated from such procedures are statistically meaningless.

They should provide guidelines for commercial and non-commercial labs.

Yes. Many third party round-robins give inconsistent and often misleading results. I've often seen labs only report results that will make their scores look good as opposed to showing what they need to do to improve

D05 should publish a comprehensive research report.

- **To difficult to assemble and maintain in hard copy format.**
- **Make information through web based summary (of standards) that links to existing research reports.**
- **Useful resource for planning future revisions to standards.**
- **Useful resource for promoting validity of D05 standards.**

Cons

This has not been an issue in my department – Coal Sales.

Isn't the data kept centrally in Conshohocken and available through Scott Orthey?

Could be difficult to keep updated.

Good idea but probably more difficult than it seems on the surface.

The research report would be more of a snapshot than something comprehensive. Round robins sometimes employ different methodologies and samples. Any changes would involve having to change the comprehensive report many times. A separate subcommittee would be needed just to handle this duty alone.

No. Those interested in this know how to get it, those not interested, would not read it.

No but all important sources should be referenced.

Disagree. A multiplicity of reports should be used for this purpose. Reports of this nature are likely quite test method specific.

I don't know. This sounds like a bit on the overboard side…maybe the comprehensive research report could be made available to those who request it as an option when dues are paid.

I believe serious consideration needs to be given to the layout of the standard to ensure they are "user friendly" and not a thesis document in which the actual procedure becomes a side issue. The primary purpose of a method should be to instruct the reader how to perform the test correctly and safely.

I think this could get ugly. I think having an ASTM home for research/testing records is good since people can't remember these type things. But, a published comprehensive report is not required.

Pros

Good idea, perhaps available electronically. Also would like to see case studies on how these results were applied to answer a specific question. Perhaps this would make a good separate publication.

I agree that such information be available. It is probably not necessary to have an annual publication. Certainly web based data that are updated as required should be available.

It would be useful to setup a web-based search engine /data base system to access associated Research Reports, Interlaboratory Study Results and Reference Materials.

The research report should be accessible upon demand for anyone who wants to see it but not published. It is an added expense that many are not interested in. They want to see the statistics (P&B etc.).

Yes, it is important to understand the conditions under which the standard was developed access to the research reports in some way, will foster improved application of the standards under the correct assumptions.

Yes. For the people interested, it would be beneficial to see the actual work behind the numbers. I, for one, will work problems backwards to make sure the answer makes sense.

Agree this would only add to the validity of the end result(s) once published.

This could be helpful for laboratory managers who have to validate the efficacy of methods employed within their laboratory. However, I can't see something like this being used on a regular basis.

This would be a good housekeeping measure, and be invaluable to future TG members after we have all retired.

Yes, of course. Problem is, we don't have this information for much of which is in the existing standards.

Yes; such information is critical to an understanding of each bias / precision statement.

This information should be published somewhere in the relevant standards, or in a separate report.

I agree with this and would personally find this useful. But again, I am concerned with diminishing technical competence in the industry just how useful this would be.

Yes. This would be beneficial. There is a common misperception that the scope of the D05 standard implies the only possible range of reported results. It should be clearly defined as the "validation range", not as the allowable measurable range, if this is the case. For example, I have frequently been told that method X cannot be used, because it only measures to 15%, when in actuality, the highest standard used in the validation study was 15%. An upper "limit" was not specifically determined for validation work, but is based on available materials used for the study.

Yes, maybe a separate publication by committee that would be available by request – hopefully at no charge. And speaking of research reports, they should be consistent in format, turn-key, and easy to generate. Blank research templates where you fill in the blanks would be nice to achieve this goal.

This is indeed very critical. If ASTM also document the source of CRM producers in the report that would greatly help.

Absolutely. This should be part of the process of formulating a new method and existing historical documents related to existing methods.

Absolutely, although I am one of the guilty ones that did not produce a research report. Current ASTM services with Work Items and Interlaboratory Studies make this much easier to do. This help is very welcome and long overdue.

D05 should hold a meeting every 4 years at ASTM headquarters.

- **Members do not see benefits of a meeting at headquarters over those available at committee weeks.**
- **Not a lot of "after meeting" dining and entertainment options.**
- **Good back up for situations where committee week selections are not in "coal areas"**
- **Good opportunity to expose "non-officer" members of D05 to extensive services available at and through headquarters.**
- **ASTM needs to hire an animal control officer for the turnpike.**

Disagree

Only complaint I've heard is that there is little "night-life".

I do not see it as imperative.

This is a good idea for support purposes, but I do not see much advantage beyond the services offered at Committee Week meetings. There are quite a few limitations to meeting in West Conshohocken – especially if we want to build up attendance – hotel accommodations are limited; eating (unless you rent a car and / or want to drive in traffic) is limited…

No, I'm not sure of benefit associated with West Conshohocken.

I see no benefit to this over any other venue that is readily accessible.

I do not see how this would help the level of participation.

Not necessary present rotation of sites is satisfactory

Not necessary. I've been to the headquarters and don't feel there is anything to be gained. It would be nice if members would play a more active role in highlighting their industries/workplaces by arranging site tours when meetings are held in a region. Increase awareness of what and who is out there!

No, I don't see any reason for meeting there. Why WC? Meetings should be located at places that members can get to at a low cost ; competitive airline flights into, like major markets with multiple air carriers , such places as Atlanta, Chicago, Denver, Miami, Houston, Cincinnati, Charlotte, Orlando, Las Vegas, San Diego. Locations with low cost air and lots of hotels.

Not necessary. But meetings should be held in locations which would present an opportunity to visit a coal mining, distribution, and/or lab facility. I think it was in Norfolk that we visited a Norfolk Southern coal yard where I was able to see equipment and operating conditions for which we were establishing quality standards.

I am not sure of the value of holding a meeting in West Conshohocken. I have always believed the meetings should be held at a location, geographically, that will allow the majority of the interested parties good access. It is hard in many companies now for an ASTM meeting to be held as an important budget item, so location is key.

Personally, I do not see the advantages of The ASTM Headquarters or meetings in conjunction with other ASTM committees (in Committee Weeks). I go back 30 years (not that active in the last 10) and my most memorable meetings were places like Newport News.

I have seen no significant advantage with D5 meetings at ASTM Headquarters (I attended the reunion D5 Meeting at ASTM Headquarters about 4 years ago after taking out a deer and my radiator on the Pennsylvania Turnpike). I also do not support participation in Committee Weeks.

Agree

I loved the meeting at headquarters. Periodically it would be good, but since it's out of the main coal areas, once in four years would work.

I do not want to set a schedule on this, but I think it is a good fall-back location when committee week is located too far outside the coal fields. I see no reason to attend committee week in California, Nevada, or similar locations.

It is a very good venue. Offers value in the instruction ASTM personnel can provide to us when meetings are held there.

From my experience the facilities at Conshohocken are very good.

This would provide an valuable opportunity for subordinate (as opposed to Officer) training, promoting the use of virtual meetings, teaching long range planning as an all hands endeavor.

The presence of historical sites is a plus in my opinion.

Where are the gaps in ASTM D05 standards?

Resource and Reserve Assessment

Subcommittees 7,18,21,23

Because we are part of an international company I expect that we will continue to use JORC.

Most mines in the coal industry do not use the most current and useful methods of in situ evaluation, which entails use of geostatistics. There is an ASTM committee somewhat involved, but D05, with members having almost no experience with these techniques, is not.

Better agreement between the quality of reserve samples and the actual coals being utilized is needed. In the past the USEPA and other agencies, using zealous interpretations of poor quality by aggressive researchers, have underestimated the quality of coal reserves or overstated the effect of trace pollutants.

Specific Recommendations

Guide: Use of ASTM standards in resource / reserve assessment and exploration – a guide for geologists, preparation engineers / metallurgists, chemists, lawyers, et al (18)

Reserve quality assessments utilizing geo-statistics
Predictive methods by mining method that could be used to be more representative of in-situ coal seam qualities versus what is actually shipped to the processing point or end customer.

Method to assess reserves.

Stock-pile surveillances
Relative, apparent, and true density
Specific Gravity

Mining

Subcommittees 7, 21

Heaven help us of if D05 starts writing standards on how to mine coal.

Minor part of clientele and mostly involved in sampling matters.

This is tightly regulated by MSHA, EPA, OSM, DEQ, BLM, the State Board of Registration for engineers and surveyors, etc.. We would use D05 standards only to the extent that they were embodied in government regulations. I don't foresee using them in contracting for mining services or reporting mining results.

I am not familiar with any ASTM standards that apply directly to mining. Indirectly, all standards dealing with the assessment of coal quality, and there are many and more are needed, apply to the mining of coal.

Specific Recommendations

Guide: Use of ASTM standards in mine development and exploitation – a guide for geologists, preparation engineers / metallurgists, chemists, lawyers, coal-handling, transportation and storage experts, et al

Angle of repose measurements
Permeability and Porosity
Explosiveness of dust

Sampling

Subcommittees 7,15,21,23,29

This is where it all starts. If this is not done right the rest does not matter.

We need to place more emphasis on the impact of a good sample and the financial risk of a bad sample. A bad sample can not be fixed or corrected for by any lab.

You did not list coal preparation. IS0 has an entire SC dedicated to these practices.

ISO is most pertinent to coal preparation. ISO also bases practices on sound statistics. ASTM still uses “rules of thumb” i.e. D2234.

There is a whole area of performance related sampling that is specific to the utility business that is lacking in the D05 area.

There are needs to address sampling of coal utilization by-products such as ash and circulating solids in gasifiers and CFB boilers that are not being met by ASTM, ASME or EPA test methods.

I need standards that can be understood by high school graduates, who have little or no technical expertise. I think the standards need to go back to having the introduction paragraph that explains use from historical traditional standpoint. This introductory paragraph was helpful when trying to explain standard to the “sampling technology” challenged.

Both D05 and ISO are very far behind on this. It is just too durn difficult to move the masses toward accepting and taking advantage of the vast body of published knowledge of mathematical statistics related to sampling. I do not know how a basically unfunded group like D05 can get this done.

Sampling is light years behind the laboratory standards. I think there are 3 reasons. First, the laboratory testing and roughness testing is cheaper to perform than for sampling. Laboratory managers can work testing in with their schedule without much impact on the budget, while sampling test are not as easily performed without an impact on production (moving coal). Second and probably much more important is that much of the sampling tests conducted are performed by individual companies, not ASTM testing for standard improvement. These companies pay for the test and therefore do not share the data with outsiders for years. Results slip out, but the data and conduct of the tests do not. Third (or maybe just the reason for 2), I think the companies represented by D23 people will not pay for shared sampling testing. It is my opinion that they want people in D23 to know what is going on, but do not consider improvement of ASTM standards to be part of the job to be performed by those people. Thus, it is left to each person to decide to commit personal

time to improving standards. The companies need to be more like one of my former managers at TVA would not allow you to attend ASTM unless you were active on an ASTM TG.

A sampling standard that "meets the need" of the coal industry is one that does require a specific amount of cuts or material processing to produce a representative sample. This is generally the view of the load out operators that don't understand why the system must operate in a specific way.

Regarding coal sampling, the standards are adequate. Unfortunately portions are not as clear as they could be which is due to the nature of a consensus standard.

Make sure all sampling methodologies and technologies are up-to-date in standards. This may need to review standards more frequently than current time periods.

ASTM should enlist the most knowledgeable person on coal sampling /statistics to correct the standards. Suggest the best, most qualified person to correct the gaps in the coal standards on sampling. (23)

D7256 is a giant step forward. While the TG will continue to work on it I don't see any gaps in it that would have a major impact on our organization.

The process of consolidation of sample collection and preparation within a sampling system is proceeding. This will have a good impact and we need to proceed with it.

Many methods are undergoing significant organization changes i.e. combining, eliminating, moving etc. This is the type of activity that to draw industry professionals into activity, it would be great to have some chronology which is easily accessible for someone to "get up to speed". The perception is that it's a major task of pouring through minutes and calling folks to find out what's going on.

Sampling standards are in various places. However a TG 1 Participate on is trying to reorganize the individual mechanical sampling standards so they are all in one place.

For coke sampling we are in the process of rewriting this since the standard is of no practical use based on standard practice being used. It is apparent that D346 is not commonly being followed by North American Coke makers.

Sampling in terms of 'representative' samples of coke, D 346-04, 'Collection and Preparation of Coke Samples for Laboratory Analysis'. The standard does not reflect current Coke Plant Sampling practices.

Need more current methods for coke sampling. Part of the reason coke sampling is out of date is that there seems to be very few organizations in ASTM or participating in this area. More coke making technical people or organizations need to participate if progress is to be made. Somehow this point has to be sold to these organizations.

The sampling standards for the most part are fairly comprehensive and we use these standards exclusively when developing work procedures around obtaining representative samples for further laboratory analysis. One area in the sampling that seems to be slightly lacking is in the area of performance coal testing. For example in the utility business there is a requirement to take coal samples (feeder samples), just prior to the mills on occasion for performance enhancement testing. D6609-01 seems to speak indirectly to this practice and gives some guidance, however it would be useful to develop standards that would comment as to the

estimated precision and representative probably such that performance enhancement experimentation can be interpreted with more confidence.

Specific Recommendations

Guide: Use of ASTM standards in sampling – a guide for geologists, preparation engineers / metallurgists, chemists, lawyers, contract administrators, regulators, et al

Guide to Sampling which explains probability versus non probability sampling, summarizes the work of Gould, Merks, and Gy etc. and explains bias test statistics.

Quality Control Procedures in regard to mechanical sampling is needed far more than Bias Testing.

Clarification of training requirements for system operators

There are a number of issues that I feel need to be addressed in this area. Fortunately, each the items I am referencing are scheduled to be addressed at some point in the future at the task group and sub-committee levels. Examples: 1.Speed of cross-belt samplers, 2. number of secondary increments required prior to crushing, 3. definition of sample cutter dimensions, 4. role and scope of sample ratios in sampling. (23)

We have one on-line coal analyzer standard but misinformation is the name of the game in this industry. Companies continue to sell these analyzers with very misleading information regarding its capabilities accuracy, precision, calibration, recalibration, etc. I'm not sure what ASTM can do but it seems to me like there should be some standardized tests that it should be capable of passing.

More standards need to be written on the operation and maintenance of MSS. ASTM should be more specific on issues: One that needs corrected is to make " *mandatory* sampling ratios" as part of meeting the standards having SR's as non mandatory is insufficient, and ridiculous that a procedure as important as SR's was not put in the standard as mandatory from day one!!!! And bias tests ASTM needs to specify the time between bias tests , not just say periodic intervals ,that provides a MSS owner the option of scheduling a bias test when they want every 5 or 10 years. That is a terrible disservice to people paying on those MSS when the owners of them won't take responsibility for operating them correctly, and bias testing them every year or so and fully complying with monitoring sampling ratios. Those are two of the largest gaps, how ever there are many more.

A statistical basis for determining minimum sample mass and number of increments for a given precision.

More detail on acceptable sample size as a function of tons represented would be helpful. I wish ASTM had more to say about different methods of sample splitting--riffles vs. rotary splitter, for instance.

Provide stronger guidelines for testing of Auto samplers.

Method of measuring the cutter opening

Method for determining the velocity of a cross stream cutter

Bias Test standard needs to complete frequency recommendations

ASTM needs to buy program for bias testing and distribute.

Institute a study and eventually develop a standard providing some guidelines that indicate a practical method of measuring the potential difference between analytical results of the same lot sampled at different locations.

A standard for sampling and preparation at the micro (laboratory) level, based on the samples (size, weight, matrix etc.) that we are given. We usually have no say in how samples are/were collected in the field.

Slurry

Wash Plant

Magnetite

Utilization

Subcommittees 7,15,21,29

I'm not qualified to comment on the gaps but I do wonder whether it is wise to develop "prescriptive" standard methods in which specific procedures are stipulated. I think we need to be moving to "performance based" standards in which general guidance is given (and performance required i.e. in analyzing CRMs) rather than prescriptive procedures. I suspect many laboratories modify the procedures detailed in standard methods.

The major gap is produced right now is the fire side chemistry in the combustion process. This will also include combustion flue gas for SCR and Scrubber.

D05 needs to update coal ash byproduct test methods and procedures.

Standards for on-line analyzers, i.e. mercury, Cl, and other elements are needed.

Alternate fuel standards, especially in the "Coal to Liquid" area and "Clean Coal Technologies" in general.

Yes, the standards committee should be actively pursuing standards development in several areas that are logical extensions of the D05 Area. First would be the development of standards for the coal use under gasification conditions. The major and minors are determined in an oxidizing atmosphere, in gasification the atmosphere is considerably different and different combustion condition are prevalent. Biomass conversion/solid fuels should be actively investigated. Perhaps the name of the D05 committee should be changed from Gaseous Fuels; Coal and Coke to Gaseous Fuels; Coal and Coke and Solid Fuels?

From Thursday, January 25, 2007: "In the long run, achieving sustainability will require that energy be produced by cleaner and more efficient technologies, be used more efficiently and with greater conservation, and be developed from renewable sources." How is D05 addressing this specifically? Gasification may be one way, are there others? Could there be new standards or other activities that address this?

Make improvements and amendments to standards to encompass the changes in the chemical analysis industry in general. With technological advances in chemical analysis and the increasing role of computers in laboratories, it is necessary for D05 to continuously monitor technical capabilities and improvements and

to incorporate them into standards. In many cases, automated instruments are replacing the old standard method techniques. However, the D05 committee of technical experts must ensure that these new techniques provide data consistent with older methods. Many standards for coal and coke quality rely on proven results. Research into compliance with older standard methods is critical. An example is the difficulties observed with volatile analysis of cokes on the automated TGA. Results differ greatly from results obtained using the conventional manual analysis.

ASTM should meet the needs without compromising the accuracy and precision of the methods.

Specific Recommendations

Guide: Use of ASTM standards in transportation and utilization – a guide for metallurgists, steam-plant operators, steel-mill operators, chemists, lawyers, et al

A manual with only ultimate and proximate methods

Heat Rate Balance.

Spontaneous combustion

More automated analysis, i.e., Macro-TGA, XRF analysis of materials in whole coal, etc.

Another Chlorine Standard Using Wet Combustion and Ion Chromatography.

Water soluble alkali

I know ASTM is working on a standard method for coal ash characterization (fractionation?).This could potentially provide important information regarding coal utilization in boilers beyond the limited usefulness of ash fusion temperatures. We hope to see some progress on this front.

I am working on new standards for inorganic material in coal and have suggested several badly needed revisions in existing standards (proximate and ultimate analyses) to better meet the needs of current practitioners.

ASTM needs to proactively promote better methods to measure coal properties; e.g., ash fusion… how about TMA?

T_{250}, slagging and fouling factor calculation and interpretation.

Microwave digestion of coal/ash for mineral and trace metal analysis.

A better standard to reflect the true coking characteristics of coals and blends is still needed. A plethora of different ASTM, ISO, JIS, etc tests exist to evaluate coal and coke quality but none are universally recognized as a measure of a coals coking ability.