

ASSET MANAGEMENT FORUM

Hilton on the Park, Tuesday 22nd May 2007

OPENING AND WELCOME

Moderator: Deryk Anderson

Ladies and gentlemen, good afternoon and welcome to this ICOMS 2007 forum. My name is Deryk Anderson and I will be the facilitator for the next three hours of this forum while we discuss a world standard and glossary for asset management. It is the aim of the Asset Management Council to use our profile in the asset management community and also this international event as a vehicle to actually promote the idea of a Body of Knowledge for asset management. We are really looking to start something here. We are really looking to start a global conversation on the need for an asset management Body of Knowledge because a Body of Knowledge represents the sum knowledge of a domain or professional discipline. In fact, a profession is very much defined by that body of knowledge. The fact that it outlines the principles and the processes associated with that field of expertise. I think it is a reasonable observation that absolutely none of us have any claim to call ourselves asset management professionals without the existence of that Body of Knowledge.

So it seems to me that this is a very important conversation to be having as a community. Today's forum, and you will be hearing from a number of speakers today, has both top down and bottom up aspects to it. We will talk about the approach to developing a body of knowledge from the Asset Management Council's perspective a little bit later on, but it has been very much our intent and very much our approach to actually try and build top down and bottom up the fundamental basis of a Body of Knowledge so that we have something to debate in forums such as this.

We will hear from speakers today and from panelists about aspects of a Body of Knowledge. We will hear about philosophy, we will hear about content and systems, we will hear about tools and techniques, and we will hear about ideas and concepts. And we very much invite at stages during today's proceedings, your views on the Body of Knowledge, on its applicability, on how appropriate it is and whether or not you think it is valid and workable within the broader asset management community.

I would like to start off just by acknowledging those people you will be hearing from today and first off, of course, to offer a number of apologies. Peter Kohler from the Asset Management Council was to convene this forum today and he sends his apologies. He hasn't sent his apologies to me yet because I actually had to take over from him in his duties, but certainly he sends his apologies to the forum that he could not be here today. Roger Byrne of GHD was also a keen participant as one of the world's thought leaders in asset management to be here, but being overseas also sends his apologies, as does Dr Penny Burns from ACORN who is also overseas.

Our speakers today: Jim Kennedy from the Asset Management Council, George Spink from the Facilities Management Association, Steve Morris from the Institute of Asset Management. Patrick Quain has done a lot of work in an inaugural project inside the Body of Knowledge to understand and identify standards associated with the Body of Knowledge of asset management, and he will be talking to us today. I will be talking about the approach of developing a Body of Knowledge and Johann Taylor from Worley Parsons will be talking about the work that has been done to date on glossaries. We are then inviting our panelists, a highly regarded group, to individually talk on the way they see a Body of Knowledge working; whether they think it is viable, how they see it moving forward. That panel consists of Dr Fred Stapelberg from CIEAM, Sandy Dunn of Assetivity, Dr Melinda Hodkiewicz of the University of Western Australia, Stuart Gibson from Transfield Services and Clive Moore from Silcar. And finally, the gentleman on the bottom left hand side here, John Hardwick, is responsible for looking at some of the outcomes of today and making sure that we have a documented outcome from today's forum.

So with no further ado I would like to at this stage start off the part of the forum proceedings that deals with very much the top down aspect of what a Body of Knowledge is. I would like to invite Jim Kennedy, who is the National Chair of the Asset Management Council to come and present the Asset Management Council definition and model of asset management. Please welcome Jim.

ASSET MANAGEMENT MODEL AND DEFINITION

AM Council Model and Definition, Jim Kennedy:

Thanks Deryk. Firstly, I would like also to extend Peter Kohler's apologies to you all. It was only almost dire national circumstances that he is not here. He confided to me on the weekend why it was likely to happen and it is a bit like that scene from the Fifth Element where the colonel turns up and says, "I have a mission for you. Save the world." Peter's job is a bit like that at the moment and he will be busy with it for at least the next week, although we will have him here for a very short period.

One of the issues about Body of Knowledge is that firstly in asset management, it is not exactly a standardised Body of Knowledge. It is a work in progress. And it is also such a large body. It has got breadth and it has got depth. We have seen attempts to try and wrap it up with some documents to tell people how to do asset management but of course, by definition, even if it is a 300 or 400 page book it only skims the surface. We have a new specification, PAS 55, that asks

150 questions but doesn't tell you how to answer any of them. The Body of Knowledge is the key to being able to access a structured set of information to answer those questions. Our role in this as the Asset Management Council is a fairly simple one at this stage from my point of view. It is firstly to get some agreement on what a model of asset management might look like and what a definition might be. And what I would like to do in this very short presentation is address some of those issues and share with you some of the things that we have put together and what we believe might be a useful way forward.

I think I need to probably start off with just a little bit about what the Asset Management Council sees as its future and its linkage with asset management. And what you see there on the screen are our vision and mission statements, recently signed off in the last two days by the board and our council. So as you can see there, it is about being a leading organisation. It is not about running the game. It is not about being in charge. It is just saying that we have a role in this domain called asset management and that we intend playing a leading part in the domain that we are in. We expect to work in partnership with other people that are in similar areas of this asset management domain and who we see as complimenting the sort of work we do. I will be talking about that in the final keynote speech on Thursday afternoon.

Our mission is to create a broad awareness of the value of asset management. So there are three key themes there. One is understanding or having the community understand the value of asset management, particularly having chief executive officers, chief financial officers and the senior members of organisations and their Boards understand that value. The second element is a common understanding of what asset management is. If people don't have that common understanding we will confuse the marketplace, confuse people and distort the definitions and other detail that we want to have in a Body of Knowledge. And finally, to provide a portal. In other words, to provide an entry point to both gain asset management information and knowledge and to connect to it and add to it. So, three key themes in that mission statement.

Our definition, well, it used to be the top one for some time and logically enough, not many people either understood it or could remember it. One could argue that yes, it is fine, but it fitted a certain place at a certain time. We no longer exist there. The second one is what our new asset management definition is and we have structured it to be simple, to be direct and something that we believe captures what a lot of other current definitions say but often in many more words. Make your own judgement. We have it up on our website. You can vote on it on our website and we have presented it to most of our chapters now. The result has been fairly positive. People seem to think it is a reasonable thing to say. I mean, it doesn't have much detail so it is hard to get it wrong. The key issue with such a definition is what do all those words mean? It is implicit that we have to define those major chunks that are in. The three chunks are, what is life cycle management, what are physical assets and what are the outputs of the enterprise? Those things need to be defined to give substance to that definition for any particular organisation.

So what is asset management? What I would like to do is just run you quickly through the main elements of the model that we put together. Neatly enough, our graphic artists have managed to spin a model around our logo. It is a bit hard to work out what actually came first, the logo or the model. However, the logo, in fact, is now our model. The core of it is a plan-do-check-act process. We don't believe that a proper process can have any other core backbone. That the plan-do-check-act process is now so anchored in the quality regime in how one delivers things that to think of any other way of putting a process together is completely inappropriate and incorrect.

And hence, you see the core of our logo, those four arms of plan, do, check and act with the process cycle that circle, that parts around the centre. Now the asset management process itself is a life cycle process. Life cycle processes themselves are well defined in documentation out in the public domain. The latest of those, of course, is ISO/IEC 15288, Systems engineering - Systems life cycle processes. It clearly defines a life cycle process as stages from concept through to specification, acquisition, utilisation and support, enhancement and disposal. The standard also allows one to have variations on that theme and you will find within the standard a variety of ways in which one defines that life cycle but it is a life cycle. You may think of it in terms of womb to tomb, lust to dust, whatever. It is the life of the system that we are meant to be supporting, this physical system. And it has those four arms of plan it, do it, check it, act it and of course, it is a recursive process. So within plan there is plan your plan, do your plan, check your plan, act your plan, et cetera. This is well known stuff. This is not new.

We believe good asset management processes are essential. Those good asset management processes include some, again, well known processes such as systems engineering, requirements analysis, relationship management, configuration management, continuous improvement, TQM, total productive maintenance. There is a variety of ways in which one can put blocks of disciplines across that life cycle in a structured way that gives one a key process that is that plan-do-check-act vision of how you manage a process.

Culture and leadership. We believe culture and leadership are essential in stating an organisation's way in which it is going to manage its capabilities and its asset management processes. When we were first putting this model together the graphic artist said to us, "Why are you putting them there? Everyone knows you need leadership and culture." And we said, "Well, we are engineers" and they went, "Okay, I understand" because very much leadership and culture is about the fluffies, the human aspect, and engineers aren't generally very good at that. We believe both of these are essential to any good asset management organisation. I have got a couple of slides that I flicked in at the end, but I would like to just hold that aspect until we reach it because in particular, I want to talk about some dot points of potential good culture and good leadership and also look at some words that have been put into the types of organisations that provide good leadership by a British psychologist calls James T. Reason. Most of you have probably heard of him. He wrote a book on the organisational aspects of accidents. In particular, he looked at the impact of maintenance driven accidents in the aircraft industry.

But there are four key principles that we believe are essential to follow. Those four key principles are it is all about output. It is about focussing on the output of the organisation. One may term outcomes as well. Often they get confused with outputs. We have used the word "output" as a measurable, definable and verifiable thing. Outcomes from the point of view of a life cycle are generally a step before outputs and are those fluffies that stakeholders think they want. Stakeholders often have some difficulty putting numbers and putting value onto those things they call outcomes, so hence we have used the word "output". There has been some argument about which it ought to be. We still believe it is output at this stage but are happy to talk to people about what other words may be appropriate and whether outcome and outputs are synonymous.

The second one is capabilities. That is, we are defining and specifying what the capabilities are that are necessary to achieve those outcomes - both in terms of the prime asset itself and its support arrangements, the things that it must do. Those capabilities are then looked at in terms of a level of assurance. It is one thing to state a capability but it is essential to understand how long it is going to be there for. What is your level of confidence that this capability is going to be achieved? Point nine, point 9.5, point 8 and why is more reliable better than less reliable in understanding those arrangements by which you assure yourself that you have the right numbers and satisfying a set of stakeholder requirements? These are not insignificant and trivial issues. The flow down of requirements into systems design is a very significant and difficult issue for most organisations. They tend to talk at the top level and talk in very vague terms about some of these issues such as reliability and availability. They are hard numbers. They need to be driven by verification practices and ways in which people define them.

Finally, we have put learning organisation, which leads of course back into the issues of leadership and culture. Learning organisations, again, well defined in the literature. Learning organisations are organisations who are open, who share, who are able to translate what they discover back into the things they do. So again, we are back into the human dimension. This translation of what you know into something that you can then change and actually do is not an easy thing. Most organisations find it very difficult. I happen to work for one that actually creating change is one of the hardest things that they have. In fact, the technical aspects, many argue, is more manageable than the human change aspect, but that is another story.

So that is our model. It looks a bit like a windmill. You will see it here and you will see it on the various people from the Asset Management Council around the room wearing it. We believe it is a memorable logo and one in which by having the logo people will be able to remember the bits that make up the model: the plan-do-check-act, the leadership, the culture, the output focus, the capabilities, the level of assurance and the learning organisation. It just rolls off the tongue.

Let's have a quick look at the role of leadership and culture. These are some dot points that we put together to put in front of people on the one day asset management course that we run for the Asset Management Council. They are fairly obvious to most people. Organisations expect to see those things now. We clearly understand that asset management, in the changes an organisation requires to make to be good at it, requires leadership. It is not going to happen unless someone puts themselves on the line and has the ability to muster the resources and drive the organisation and this is nothing new. Machiavelli wrote about it more than 400 years ago. "Woe betide the innovator," he said, "his enemies shall all be losers from the change that he is about to make. His supporters will all be lukewarm because they don't necessarily gain a lot. The only way the innovator will prevail is if the king is on their side." Life hasn't changed in almost 500 years. Without leadership and without the king on our side, we will not be able to make the changes we need to make.

Culture- There are some other dot points on culture, and asset management is very much about a long term culture. I will just talk about that for a second in terms of a book that was written called "The Clock of the Long Now". It looked at the issues associated with the long term and people thinking long term. It talked about the need to create long term thinking in the community and about making it automatic and common not rare. Not people who live for the short term, for the next quarterly report, the monthly report, the stockmarket number tonight. It was about thinking long term; 25 years, 50 years, 100 years. We can talk about saving the globe. Personally, I believe only good asset management is going to save this globe; an asset management that thinks long term and thinks about the 100 years and the 200 years. We are building assets now that will probably be here in a million years. Tunnels through solid sandstone, cities that are structured with everything built around them. These are large major undertakings. They will be there for hundreds if not thousands of years. We must think long term. I guess I would like to finish with just the words from James T. Reason about the types of organisations that exist. Which one of these are you? Which one of these is a good asset management organisation? I will leave it at that and let you answer the question yourselves. To me it is fairly obvious. Thank you.

ASSET MANAGEMENT MODEL AND DEFINITION

Deryk Anderson: Thanks very much Jim for that view. I will take questions after the next speaker. I would now like to introduce George Spink from the Facility Management Association to answer the question on the differences or similarities between facilities management and asset management. Please welcome George.

FM and AM – How do they fit, George Spink

This is an on the cuff presentation. Good afternoon everyone. My name is George Spink. I have actually probably been called in at relatively short notice from my side just to give probably a five minute overview on perhaps facility management association, FMA Australia, as you may have heard it, and also maybe throw out the challenge out there

that this whole term and notion of facilities management versus asset management. Jim has just given a fantastic insight into asset management and I would encourage everyone here to get your friends and colleagues. As Jim mentioned, Thursday afternoon there is one of the closing addresses. Indeed, Jim and I are having a stand off discussion about asset management versus facilities management: is there a difference? So I am not going to steal too much thunder about that. I have only really got a few minutes as I am aware. So I would like to give a quick background on the Facility Management Association. I might just prompt a few thoughts around asset management and facilities management and perhaps if there is a little bit of time people might want to throw a couple of questions just to generate the thinking, but to hold that then obviously through to Thursday when Jim and I have our face off. So I will look forward to that.

For those who aren't familiar with the Facility Management Association, established in the early nineties. It has come out of a background on the building side, probably architectural side and probably space planners, so there is probably, to some degree, more of an aesthetics focus on the interior and indeed, the whole building and if you like, the built environment. In fact, when you hear people talk about facilities management it is generally around a focus on the built environment, and that is probably one of the distinctions and threads that Jim and I, in our discussions about our presentation, has come through as to what is the right term, facilities management or asset management? I think when you start thinking about it in an asset context, I think of classes of assets from process plants, roads, and rail through to buildings. When you start thinking about assets from the context of the class of asset that helps to start thinking whether you are in asset management space or facilities management space.

The FMA, started in the early nineties from the architectural sort of side primarily, although the building side and there is obviously engineers and other professional disciplines floating through. It is a membership body. We don't class ourselves as a professional body. That tends to distinguish who may be members. We have everyone from cleaning companies right through to professional bodies and people are part of our membership, so we consider ourselves a membership body. We have about 1700 people and that has continued to grow over the course of its life since the early nineties and we are now more recently forming a global FM, global facilities management, with the likes of British Institute of Facility Managers and the American also Facility Management Chapters as well. So we are recognising that whilst FMA doesn't initially aspire to be outside of Australia, we are forming global alliances and global links and really starting to get some good traction around sharing that knowledge. We have got new partners coming on through France, South Africa, Japan, et cetera also expressing an interest to be part of global FM. So it is certainly, from a management discipline and from the point of view of looking after the built environment and buildings, it is definitely coming through as a strong focus from other parts of the globe.

As I said, the presentation that Jim and I are talking about on Thursday, and I want to just put a precursor today and maybe draw any questions or discussion, is facilities management and asset management, is there a difference? And certainly from where our point of view is, and I will come back to that earlier comment I made about the type of asset, when I think about facility management and I ask people in the market, they talk about the buildings, the built environment and perhaps even a property side that associates with the buildings. When I think of asset management, and I spoke with a number of people in the FMA and including we have just had our conference two weeks ago, the Facility Management Association conference. We had representatives from all those other global FMs as well. I bounced it off them and they had the same view that when you talk buildings you are talking facilities management.

When you start getting into high energy, complex or perhaps networked style assets then people say, "No, I am really actually after an asset manager". And what I mean by those types of assets is high energy, maybe your process plants. You start talking network you are getting into rail. You start talking power stations around high energy assets, complex assets. People generally look for probably a slightly more technical engineering focussed, and as Jim has outlined some very strong disciplines around that whole plan-do-check-act. FM probably gravitates a little bit more towards also the people side of assets rather than just the technical complexities of an asset, whether it be a process plant or a power station. They start to think about is it aesthetically pleasing for tenants and so forth from an FM point of view.

But having said that, there is a lot of overlap as well. FMers are looking for good life cycle management, good maintenance management, good asset management, and good capital replacement programs, which are all in that end to end, life cycle process. So we actually do need to draw on the asset management thinking and processes but also then put in that human element if you like. So we probably guess, our hypotheses, indeed our conclusion starts to draw that facility managers need asset managers to help them on key areas of buildings around say, lifts or heating and ventilation and air conditioning, et cetera, HVAC, power and other sorts of distribution assets. And conversely, perhaps asset managers with perhaps maybe slightly focus on the complex assets et cetera might need to bring in facility managers to help them maybe with the broader thinking of the portfolio or taking some of that people side, or indeed, the operational side. I guess our perspective from within FMA is facility managers are often operators and maintainers managing bundled assets, whether it be security, cleaning, catering, transport, the mail room; a lot of other services that perhaps an asset manager typically won't get involved in. They might help in the planning and the design and the life cycle but they may not be responsible for the operational delivery of some of those services.

So that is where we start seeing the difference is the complex assets that both FM and asset managers are responsible for, but when you start talking people or the built environment then you start thinking more facilities management. Hence, I think the terms can actually sit in the market and compliment each other. FM is more the built environment, asset management is probably everything else when you start getting outside of the built environment, but we would need to draw in asset management thinking to the facilities management environment.

Ultimately, and this is where I will probably ask you to put your thinking caps on and maybe challenge me in these thoughts, but ultimately, what we are saying is, and indeed, we will flesh out further on Thursday, asset management and

facilities management can sit side by side in the market, and indeed, there is a number of overlapping points and they compliment each other. So perhaps it is a terminology that we are dealing with because it also could introduce infrastructure management and property management. The one thing that we do agree on is we are all actually striving for a management discipline around the asset classes we manage but they have then a slightly different context whether I talk infrastructure management, asset management or facilities management. So we are all after the striving for management of these assets but then there is a terminology, a taxonomy if you like, for the respective industries, but I welcome you to challenge me in a second on that.

So hence, there is a terminology for industries but there is a cross over between us. And I think between the Facility Management Association, which I am in the vice-chair role there, we should look at exploring how we can indeed share our learnings between the Facility Management Association and Asset Management Council because there is some overlaps and we could share the body of knowledge that FMA has had for the last 14 or 15 years and indeed through our global, and I know Asset Management Council aspires to be broader than Australia as well. So together we can share a common library but then take it back and tar it to our respect asset classes perhaps, if I can use that term rather than industries. If we have a few minutes who wants to challenge me as to whether asset management and facilities management sits side by side? Does anyone have a view from where you sit and where you see the markets or have we got it right?

QUESTIONS FROM AUDIENCE

Question (Speaker): Your definition of facilities, where does it stop and start?

Answer, George Spink: It is more in the built environment. So if I took, say a power station, the main power plant, et cetera that actually generates the power, I would see that sitting on the asset management side. When you talk about the administration building, the headquarter building, there is important facilities around that, workshops, if you like, outside the wire, if I can use that term. I would see that more starting to come into the domain of facilities management because they would be looking after those facilities. And quite possibly then if there is security, grounds maintenance and other services that support the ultimate core business, and this is the other definition we had was that it supports a core business, and that would be more of a facilities style supporting the asset management of the core business. That is probably the other distinction we started making is that when you think about process plants, rail, road, water assets, et cetera, their core business is moving whether it be power, water, rolling stock. Typically an FM wouldn't get involved in the maintenance and asset management of those type of assets. That is what we class as more high energy complex. That probably sits in more the asset manager's domain. But the vergers, the support facilities, whether it be buildings, warehouses, blocks of dirt that support some of those style of assets starts to more fall in the facilities management aspect. Does that help the definition?

QUESTIONS FROM AUDIENCE

Question (Speaker): <inaudible> port facilities <inaudible>.

Answer: George Spink:

Port facilities. They will always be grey. Again, I see in the facilities management area where we actually maintain the docks, the wharves, the buoys, the channel markers but I would then say we draw on life cycle analysis, marine engineering, et cetera as key disciplines to come in and support those style of assets. So there is a facilities management sort of operational approach to say, a port facility but when you then look for say, particular life cycle analysis, et cetera we then draw on, and this is where I gravitate towards an asset management style approach to get that right life cycle. FMs can do it but if they are there as the operational they might draw on key expertise to help them in some of those specific areas.

Deryk Anderson:

Can I just say something at the moment? I am aware that both George and Jim do have other commitments and I will take questions now. So I might get you to ask or direct your questions to either Jim or George. And if you do have a question, because this proceeding is being taped you have to be fairly careful what you say, could you please raise your hand and I will bring this microphone to you so your question can be heard. Did I see a hand go up? Danny.

Danny Azavedo:

Danny Azavedo from Sydney Water. In the water industry or the utilities a treatment plant is called a facility, a pumping station is called a facility and facility becomes a part of the asset management process. When you look especially from the business perspective, what are your feelings about it?

Jim Kennedy:

The third dot point you will notice on your program was Roger Byrne who was going to talk to infrastructure management. I think Danny's question is very much almost an infrastructure question. I flicked that up to help I guess George with the answer a bit and me with the answer a bit by saying there is actually a third group in this game called the infrastructure people. And there is the definition straight out of the International Infrastructure Management Manual to try and put it in perspective. In fact, it is probably both so I will let George answer the question but maybe with the help of that slide. Thanks George.

George Spink: Again, I think there is always going to be grey areas and to some degree there is not a purist definition. But when I hear of from the water point of view, if I understood, in terms of actually the assets they have probably been called facilities, but I start to see them gravitating more towards the asset management side. If I understood Sydney Water, if you had your headquarter buildings and so forth, that would probably then start to come into facilities management. So again, I think it is probably partly terminology. I wouldn't expect a facility manager necessarily to get involved in maintaining pipe networks, pumping stations, dams, et cetera. I would probably see that as either again, I will introduce another term, maintenance management or asset management side, still needing that management discipline. I think that is one of the key things we are all striving for is good management of assets, facilities or infrastructure. We all want as management the best return from our shareholders, stakeholders, et cetera. So in that case I would probably gravitate more towards asset management and the facilities would then pick up your support assets around the outside.

Comment: Fred Stapelberg: It is Fred Stapelberg from CIEAM. It is interesting that this whole topic has come about, the question as to the difference between facilities and asset management. If you go back about two decades ago, all the state treasuries and the different agencies actually came out with regulations with regard to facilities management and since then, in the past one and a half decades or at most a decade ago, they have actually changed the connotation from facilities management to asset management. So one needs to ask why the change and what did the different state treasuries perceive to be the difference? Furthermore, I agree with Danny back there that another issue that also complicates this whole concept of asset management is the difference of the nature of the assets. On the one side there is slide up the front here, we talk of infrastructure assets and on the other side we talk of industry or industrial assets. So you have the different types of assets and you also have the public sector and the private sector, and this complicates the issue. Now, if you look at the nature of the different types of assets, typically a process plant, which one can categorise in general as an industrial asset, and I agree with Danny back there and that is, you would have, the process itself would be regarded more as industrial assets but you would definitely have treatment plant for water, a reverse osmosis plant, which is called a facility, and you would also most probably have a generating plant on site, which is regarded as a utility.

So what you are actually seeing here is various issues coming to the fore, which is actually bringing about this difference of the concept of facilities management and asset management. The way I see it, and I would like to relate it to a question as well, if you look at facilities management, as you quite correctly said, it is strictly operational. The state treasuries changed it to asset management because it included design, life cycle, and costing as well as condition assessment. Now, condition assessment, to my mind, is an aspect which you don't find in facilities management. Would you comment on that? I would like to throw it across as a question.

Answer: George Spink: Again, I will come back to the context of the assets. In terms of facilities, as in buildings, so I am talking now facilities management tends to gravitate towards commercial buildings, whether they be office blocks through to gaming venues, whatever the case may be, but those buildings we do everything from condition assessments all the way through, so the whole of life approach from design, build, operate, maintain, dispose. All that involves the maintenance side, the condition assessment, planning capital upgrades, et cetera. That all happens in the facilities management arena in the context of the facilities in which we operate on. Indeed, you will find very competent facility managers who may have a building background or a particular trade background or an engineering background that are involved in doing these condition assessments.

So I can't think of one facilities management client in the definition of looking after the built environment, so you know, boxes that house things inside them, that aren't looking for a condition assessment. I don't see that as a distinction by any stretch of the imagination. What I do hear in your comments leading up to the question is we are all striving for management of assets and I can't speak for why treasury might have changed from facility to asset management unless they felt, to some degree there might be a connotation of greater technical depth in from an asset management point of view. Also you hear people call things as asset registers rather than facilities registers, so perhaps that also helps confuse your term if people are looking for asset registers and therefore, that leads to asset management. Then you think from a financial point of view there are asset managers out there in the financial markets that are actually managing financial assets. So I suspect maybe there are words there but FM is very much still involved in the condition assessment audits and making forward projections of the maintenance and capital requirements and indeed, operational costs of a built environment facility going forward.

Comment: Jim Kennedy: What is in a name? People will call many things different things from various times. Obviously there is an element of history where people start from and they start disconnected but they gradually become connected, especially as they realise what they are doing is almost the same sort of thing. Certainly, we have no intention of disenfranchising people by trying to change the names of what they do. We believe that they have developed because they satisfy a key part of the community. And there is not just facilities management and asset management, there is also things called material logistics if you are in the military, and logistics has a much longer life than either of the other two terms, facilities management and asset management. And at one stage many hundreds of years ago it meant the whole game. It was the whole life cycle. So these things such as names will come and go. What we see as important now is gaining an understanding that there is a common process flow through all of these that can be adapted to the particular domain that people are working in. What you call yourself is about establishing some boundaries for that domain and a set of expertise that exists there and work together there. That doesn't mean we don't have common themes and shouldn't share. We obviously have that, but that doesn't mean we all have to call it exactly the same thing.

Moderator: Deryk Anderson: Thank you both. I am going to have to leave that part of the presentation there, so can you think both Jim and George for their presentations? That is very much the top down view and you can see already that there are some interesting questions surrounding the whole concept of the top down perspective of what asset

management is. I would like to turn the forum around now and start looking at things from the bottom up. This will all come together and make sense when we talk about how an asset management body of knowledge is put together, but I would like to invite a couple of speakers now on the bottom up view. The first one is Steve Morris from the Institute of Asset Management to talk about one of the emerging documents in asset management, which is PAS 55, and that will be followed up by Pat Quain, who has done some work. But at this stage could you please welcome Steve Morris to the podium?

ASSET MANAGEMENT STANDARDS

PAS 55 – Is it a standard?, Steve Morris:

Thank you Deryk. I have been asked to talk about PAS 55 and “is it a standard?”, but this makes the assumption that everybody knows what PAS 55 is. So I am going to hold this document (PAS55 Parts 1 and 2) up and hopefully those who know what it is will put their hand up and those who don't will look completely dumbfounded!. Okay, there are a few hands going up. Great. I am glad you did Jim! But just for those that aren't familiar with the Institute of Asset Management, whom I am representing, we are a UK based organisation who in 2004 sponsored the development and publication of PAS 55 – the British Standard Institute specification for the optimal management of physical infrastructure assets. PAS 55 came about from the recognition of practitioners of asset management that there wasn't a consistency in terms of what asset management was; there wasn't a consistency in language, and they felt there needed to be a framework against which they could enter into a dialogue with regulators and with other stakeholders.

PAS 55 sets out a framework of good practice for managing assets - from the development of strategy, through to operational implementation. PAS 55 was initiated as a project in February 2002 and, following the BSI fast track process was issued as a specification in 2004.

So, to come back to the question that I have been asked to discuss, namely is PAS 55 a standard? Firstly it is useful to consider what BSI define as a Standard.

They see it as being a document “defining best practice, established by consensus and approved by a recognised body”. In this instance that recognised body was BSI. The consensus was facilitated by the Institute of Asset Management with a number of UK sponsoring organisations, many of which were utility and large infrastructure businesses. The combined experience of the participants and their approach to the development of asset strategies - operating, maintaining and ultimate retirement of their assets – provided a view of good *practice*.

The purpose, intent and desires of PAS 55 were pretty simple. First of all it was to give clarity to what is meant by asset management. Clearly, many of the asset management practitioners are engineering based, as mentioned in previous presentations; however the financial management, for example, of the physical asset infrastructure is also an important factor. A key challenge is about being able to enter into a dialogue with people who are not experienced engineering or maintenance managers but whom come from another discipline such as accountancy or (as discussed by our previous speaker, George) facilities management for example. The other desire was to define what good practice asset management should look like and to allow organisations to demonstrate that they are adopting good asset management practice.

As I say, there was a need for a consistent framework and a common language and to clarify the terminology. One of the key parts of PAS55 is a glossary of terms that starts to develop a common language. This started off as a very long list of terms and definitions that were condense down to some 14 key terms to help define what Asset Management means and to enable a common dialogue to go on between people within the asset management arena.

Three years on it is interesting to reflect where PAS55 is at. A good example is OFGEM in the UK. In recent years the UK regulator for electricity and gas (OFGEM) has undertaken a number of audits and assessments – the most significant ones being the five yearly regulatory reviews - and includes an asset risk management audit. In 2006, Ofgem initiated a consultation exercise with the electricity and gas utilities in the UK, and led by the IAM, to consider the alignment of their risk management audit with PAS55. This is a good example of the credibility that PAS55 has achieved within the UK and increasingly on the international stage too.

There have also been some concerns expressed. Jim eloquently expressed his concerns in his opening speech and in a recent edition of the AMC newsletter, which if I can paraphrase, are that (PAS55) is “a raw list of 150 evidentiary requirements (that) does not give a complete picture of what is good asset management practice and process. The fact that actually, it tells you what needs to be done; it doesn't tell you how to do it.” The other concern that has been expressed is whether it proposes *good practice* or *best practice*? The IAM would not consider necessarily that the specification defines what is *best practice* asset management; rather it represents a consensus of practicing asset managers and it represents a consensus of good asset management. The specification is broad and not deep, and was not designed to tell you how to carry out good asset management but rather defines what is required. This was through design and should not be seen as a deficiency of the specification itself.

PAS55 is actually called a specification not a standard. The reason for this is that to go through a formal standard process takes many years. The IAM wanted to get a framework out as quickly as possible and did not want to get bogged down for years trying to put in place a formal standard. The specification is a BSI version of a fast tracked standard. It took us about 18 months to two years and was very much about putting something out into the marketplace that said, “We know there is a desire for this and this is a starting point.” PAS55 is very much a living document. The

IAM is currently undertaking a review and consultation of the original specification to reflect the maturing practice of asset management. In fact I believe there are some Australian companies that are involved with this review process.

So to come back to the original question, is it a standard? It isn't, in the way that IEC 60300 is for reliability centred maintenance, for example. That clearly is a recognised standard, but then PAS 55 was never put up to be anything like that. But it does very well fulfil its purpose which is to foster good practice. It has been successful in furthering the discipline of asset management and has gained a huge amount of interest, both in the UK and internationally; the very fact that I have been asked to come along and talk about PAS55 today and tomorrow is indicative of the fact that it has gained some currency and some significant interest in the sector.

It does provide a consistency of language and understanding; open to challenge perhaps, but it does provide that base line and that framework for having a common dialogue with both practicing asset managers and those that are perhaps not from a traditional engineering background who are taking an increasing interest in the discipline of asset management. For a number of disciplines it provides a framework of reference and a baseline for assessing good practice.

I agree that it is not a formal standard but then it was never intended to be. But it is becoming in many ways that defacto standard, and this is evidenced by the fact that there is increasing international interest, across many sectors, not just utility organisations. Not least of these is in Australia which, alongside the UK, is seen as leading geographies in terms of practicing asset management. That PAS55 has gained that amount of interest in Australia is indicative of the fact that it is fulfilling its purpose. It may not be a formal standard in the true sense of the word, but I think it is certainly there as a useful document and something which is tangibly taking the discipline of asset management forward .

Moderator: Deryk Anderson: Thanks Steve. Staying with the concept or idea of standards, Pat Quain has been involved in a project with the Body of Knowledge to actually research standards associated with the domain of asset management, and Pat is going to give us a brief overview of his work in that area. We have also prepared some folders, which are sitting on a chair in the back of the room if you would like to take some on the way out during the break that actually summarise that position, or at least the top 30 standards identified by Pat. Could you please welcome Pat to the podium?

ASSET MANAGEMENT STANDARDS

International AM Standards – Current list of best 30, Pat Quain:

Good afternoon. Now if you will indulge me for a second I am going to catch up on the Powerpoint. All right, this is probably going to be controversial and provocative because I can just about guarantee that all of you will have a favourite that is not in there. I would also say that the best is a very, very relative term and probably fits in with our discussion of best practice a minute ago. Ultimately, at one point I was using the word "top" in the sense of, "he is a top bloke, it's a top standard" because at least it gave me some framework for deciding what actually qualified. What I am really after here is trying to provoke some discussion because the work that we have been doing in evaluating what standards are out there becomes extremely broad based. Ultimately because asset management is so interdisciplinary, we end up being able to encompass almost every single standard that exists so we need to have some way to scope that. That ties in quite tightly with what Deryk was saying earlier, which is that the profession is defined by its body of knowledge. We have to figure out how to actually scope that if we are going to define the profession itself, otherwise almost anybody could call themselves an asset manager to some extent or another.

Why standards? Bluntly, so we can professionalise, so that we can standardise what we do, which is self-evident. It also gives us something to start benchmarking ourselves or benchmarking organisations against. Very, very importantly it provides a common vocabulary. What that allows us to do is expand the understanding because when we use a particular term, somebody else knows what that term means not just what they think it means. But a much more important element of it is that we are able to see patterns across context so that the same patterns that exist in one discipline or in one industry can be seen as existing elsewhere and the commonality of those problems can then become evident. We can see therefore a commonality of solutions so that we stop reinventing the wheel and we can start leveraging off the body of knowledge that already exists in the general community. It is also very important from the standpoint of contractual definition because it provides some sort of baseline for the legal arguments and that enables us to keep all the lawyers employed.

It provides a shared mental model, and that is a key element of determining and establishing a learning organisation, which we have already established is one of the key pillars. It provides an assurance for external agencies that what we are doing does meet some definition of good practice. It provides a third party reference for disputes. And the standards themselves, by working with standards organisations, have an internal consistency. They are generally designed, for example, to be consistent with ISO 9000, which means that you don't run into the conflicts between one particular way of doing business and what your quality management system is doing as an example.

As far as which are the 30 best, well, first we have to start with what qualifies as a standard and the work expanded to cover a lot of what I have called standards related documents. They are documents put out by standards organisations that do provide some definition and some reference that don't really qualify as a legal standard. There is a boundary issue. Because we are a life cycle discipline we cover the entire life cycle and we have to decide what actually qualifies as being part of asset management. Within that, how far do we go? How much do we worry about the interest of a particular sub-discipline versus the interest of asset management as a broad discipline? As two examples of that, if we

look at maintenance management there is an awful lot that comes up in areas of RCN. We can start looking at HAZOP. All of those standards are relevant to asset management, but they themselves only constitute a sub-discipline within the asset management realm. That then raises the question of how do we actually classify the broad body that is out there so that we can make some use of it?

Very quickly, there are a couple of frameworks which were being examined. Some of you may be familiar with this as a technologies process model. Now, overlaid on that is the EIA 649 framework for configuration management and life cycle management. Effectively at the moment we have just mapped the two of those against each other and that gives us some means of classifying. Generally most standards cross more than one of these classifications, simply because of the interdisciplinary nature of systems engineering. Don't worry about trying to scribble all of these down, they are on a summarised list out there. What they really are meant to be is a teaser of what sort of information is out there and what is available, and I will actually just read the titles. Risk management. That was one of the ones I was going to leave out, but if I did everybody would crucify me for leaving it out. I will tell you the other one later.

Information technology and software life cycle processes. Information technology, software asset management. Now, there is an entire family of documents and I generally haven't repeated all the documents within the family. There are a number of software items in here and this comes not from looking at software in terms of the information asset held by the software or managed by itself, but in terms of looking at software as an element of infrastructure for managing that information and for managing processes. What we again cross into is that overlap that the disciplines underlying asset management, infrastructure management, software infrastructure management and facilities management I think are ultimately the same, which is really important if we are going to get to the point where we can convince somebody at board level who really doesn't care about all the engineering bumf and only wants to know that the answer he has got is the right one, that the answer is the same that he ends up if he or she bases her decisions on principles, that they end up at the same solution as to this is a good principles based, consistent way to do business and achieve the outcomes of the business repeatedly.

Processes for engineering a system. Systems engineering, systems life cycle processes. That one was going in definitely no matter what. Enterprise integration. Framework for enterprise modelling. Now, this should also give you some idea of the diversity of standards that are out there that are of use to us. Information technology. In that family there is a service management standard which goes into specifying the services required between different elements within an organisation and how those are going to be provided. EIA 649 National Consensus Standard for Configuration Management. The IEEE Standard for Software Configuration Management Plans. Quality Management Systems. Guidelines for Configuration Management I have listed here under managing configuration. Space Systems Integrated Logistic Support. Aircraft and Space Industrial Data Product Identification and Traceability. Dependability Management Application Guide for Integrated Logistics Support. Dependability of Products Containing Reused Parts Requirements of Functionality and Tests. Most of these hints at providing some sort of discipline or some sort of framework which we can then examine and look at the broader applicability of possibly outside the originally intended discipline. But the work has been done and the philosophy and thinking behind it and the intellectual rigour has already been applied and the ability to leverage off that, I think, is a key part of what we are trying to achieve with the Body of Knowledge.

In terms of managing information, another PAS, PAS 2001 is on knowledge management. Standard 38784, Standard Practice for Manuals, Technical General Style and Format Requirements. Industrial Automation Systems and Integration. Product Data Representation and Exchange. Reference Model for Systems Engineering. It goes into a lot of specification requirements on how information needs to be managed when describing a system. Systems and Software Engineering Content of Systems and Software Life Cycle Process Information Products. Managing Maintenance, and we are just about at the end. Software Engineering, Software Life Cycle Processes Maintenance. Something which, to most of us in the clanky end of the world, probably are frustrated by we don't know what software maintenance actually is because it all seems to be breakdown based when you call a help desk. Programs for Reliability Growth. Mathematical Expressions for Reliability Availability Maintainability and Maintenance Support Items. Software Dependability Through the Software Life Cycle Processes Application Guide. Equipment Reliability and Reliability Assessment Methods and Guidance on System Dependability Specifications.

Now, there is a wealth of information I have not included. This is simply to give you a teaser of the diversity of actually what is out there. The very last: Quality and Audit Management. ISO 9000 is the other one that is so self-evident that it seemed almost meaningless to include it, but if I had left it out somebody would have crucified me. Quality Management Guidelines for Realising Financial and Economic Benefits. I think this is going to be a crucial part if we are going to embrace culture and leadership, if we acknowledge that we require the absolute top level support, if we follow what PAS 55(1) requires in terms of top level management sponsorship of asset management we are going to have to deal with the dollar element. Guidelines for Quality and/or Environmental Management Systems Auditing. Software Engineering. There is an entire family for software product quality requirements and evaluation. Included in that, one of the other component standards is for evaluation of commercially off the shelf software and standards for how you actually apply that framework to it. And finally Software Engineering Guidelines for the Application of ISO 9000(1) to Computer Software. Thank you.

ASSET MANAGEMENT BODY OF KNOWLEDGE

The Body of Knowledge Process, Deryk Anderson:

Thank you for that. My head is spinning; I don't know about everybody else's. It just goes to show the depth of the subject matter associated with asset management but thanks for that Pat. Just before we stop for a break this afternoon we have got a couple more very quick presentations just talking about the way in which the Asset Management Council is looking to promote discussion on the Body of Knowledge for us at management. So I have got about five minutes now to talk very quickly about what is a Body of Knowledge and what is the process. You know, what process are we looking at driving? I said at the start that we are very much looking at starting a global conversation about asset management and the lack of a Body of Knowledge for asset management and the need to engender within the asset management domain a need for that defined Body of Knowledge.

So what is a Body of Knowledge? Well, we have heard from a number of people already but it is universally accepted sum of core knowledge in an area of expertise. So, universally accepted means that everybody in the world I guess sees it fundamentally the same sort of way and that we don't have a lot of remote organisations pushing their own version of what it is. We do need a common definition of what defines our profession and it is the documentation that flows with that as well. I am not going to go through a lot of this because we have heard a lot of this already except to say that an asset management Body of Knowledge, as far as I am aware, does not currently exist. I challenge anybody that could point to a well defined Body of Knowledge for asset management and say, "There it is". Yes, it is emerging. Yes, it is coming from different areas, but there is not one currently at the moment. And because of that lack of that Body of Knowledge, and it is true of asset management, it is true of maintenance management that when you get groups of people like this together you see signs of confusion of conflict, disunity, even misinformation within the asset management domain. That is what we are aiming to address by defining the Body of Knowledge.

So we are really looking, through this project, at grasping a complete and concise view of asset management. As Pat just said, what does the domain look like? What are the boundaries? What is it that we do? And evident in the discussion between Jim and George earlier on was that definition of what is it? What is it that we are talking about? What does it physically look like? We do want to gain a critical mass of support for a unified view of asset management. We are not, as far as I am aware, looking to take the moral high ground here. We are looking to use our position within the asset management community and through international forums like this to discuss and start talking so that we can be part of that unified view of what asset management is. We certainly want to attract the mixture of input from key individuals. You can just see today we are hearing so many people talk about their view of asset management and what it is and what it means, and we are trying to get that into the whole process as well.

What does it look like? Fundamentally I believe that there are three parts of a body of knowledge. There is philosophy, there is content and systems and there are tools and techniques. However you break that down, the philosophy is very much the why and wherefore? Why are we doing this? What is it all about? And you can see in terms of having an asset management model, a glossary of terminology not because the definitions are inherently important, because the definitions actually scope what is within that boundary that Pat talked about earlier on and the core values of asset management. Content and system. You saw the process technologies model put up earlier on. That is very much a view of that but it is about strategy development, tactics and processes. And then we have the tools and techniques, which are the standards, the methodologies and the IT tools. And it is true, I think, that a body of knowledge cannot exist without the sum of its parts. I don't think you have to go terribly far back in history, perhaps in the mid 1970s, to have a look at the concept and ideals of terror technology to see something that didn't pass through or didn't get universal acceptance because it was very big on the what to do and not very big on the how to do it. So for a Body of Knowledge to exist, it must have all of those components.

So the process that we are trying to promote as the Asset Management Council is a three phase approach. The first one is very much about scope and definition. The last thing we wanted to do is to come to a forum like this and say, "Hey look, we think we need a body of knowledge" and come along empty handed and hope that it would drive some debate or activity. So we have gone out very much to do the fundamental definition, so hence the asset management model and the definitions and the bottom up building of the standards to try and bring together all of those aspects to define what the domain looks like.

The second phase is very much to seek comment and in doing that we are looking at drawing people into that global conversation so that we can actually talk about it and debate it. We are all asset managers. How do we see our roles in those models and those techniques? Finally, in the third phase to identify the gaps because there will be gaps. With all of the standards that have been identified and with all of the drivers, the contents and techniques, there will be gaps within that. Hopefully by that stage we will have enough people invigorated about the whole concept of a Body of Knowledge that there will be groups like I assume CIEAM, like universities that will want to go out there and actually fill those gaps. They will want to actually do the research and provide the materials to actually provide a unified and total body of knowledge.

So that is very much our approach and that is where we are at. We are continually working with other organisations, like minded organisations, CIEAM, IAM, those types of organisations to keep this conversation going and try and build this into a global aspect. So, so far what have we done? We have the asset capability model that Jim discussed at the start. We have had a number of forums already at the World Congress of Engineering, Asset Management back in July last year on the Gold Coast. We have formed a working group within the Asset Management Council to try and push forward some of those concepts and ideas and the project that Pat has just given the summary of the results from was very much an initiative of that group, as is the glossary. So phase one project is under hand, glossary, which I will ask Johann Taylor to talk about shortly, the graphic design and the description of the model that you saw earlier on, the identification of the standards and technologies models and we are in the process of aligning previous ICOMS papers to the Body of

Knowledge structure so that we can actually start to identify some of the thought and thought leadership in those areas and see where we get coverage and where we don't. But very much a key part of this is to get people involved and enthused about this whole process and talking actively about it and contributing from outside of the Asset Management Council.

Just to wrap up this series of presentations before the break I would like to now ask Johann Taylor to come up and talk a little bit about the glossary. The glossary is just about to be published and we are certainly looking for input to those definitions from the broader asset management community. Johann has provided a lot of the information and the data for the glossary to date. He is with Worley Parsons, just moved to a new job. Would you welcome Johann?

ASSET MANAGEMENT BODY OF KNOWLEDGE

Glossary of Asset Management-What Glossaries already exist and the AM Council Glossary a Work in Progress, Johann Taylor:

Thanks for the introduction Deryk. What is in a name? I think that is going to be a question that is going to be asked a few times over these next few days. Around the glossary, I think it is probably useful to list some terms and definitions. I was thinking about the old game we used to play, bullshit bingo, if you remember? Every time somebody mentions a buzzword in a presentation or meeting, you mark it down and when you get the row complete, you shout "Bingo". This one on the list "PPP = PPP" is the only one I know: piss poor planning results in piss poor performance.

Around the glossary, where does this come from? Deryk and other individuals have spoken about some of the origins already. We do not want to put some sort of a cover on top of creativity with regard to the development and acceptance of these items, but really ensuring that we leverage this knowledge and making sure it provides a good standard for what we want to achieve.

Let's review the process quickly, Deryk has already put significant bits together on how to develop and maintain the glossary. It is a key asset for us irrespective of the industry and even something as simple as this glossary knowledge base, is an asset which we want to provide but how we are going to maintain and care for this asset once it becomes alive? Information and knowledge do drift and we also need to address that aspect.

In terms of the current glossary containing all these acronyms and definitions, it is mostly a legacy coming from text books and products and standards which created acronyms like RCM or TPM. This will form the reference basis for now and through the Asset Management Council, forms one element of the body of knowledge effort. Most definitely the variation and inaccuracies it is an issue in the industry out there. Whether you participate in discussion forums, meetings, publications, presentations etc, terminology is always a point of contention and it is like a big wheel coming around the whole time. Huge discussions occur on what do these terms mean and what do they imply? There is really a need to standardise on some of these items.

With new products surfacing the whole time and in parallel, new terminology is created, yes it is progressing and all that, but the level of confusion increases and it is not necessarily learning that it brings about in industry. It is something that needs to be managed, to provide a standard and reference so you can start comparing, categorising and in general, support structured debate. It is like the periodic table of elements. Its structure provides the white space to fit in new elements as they are identified. As Von Klauswitz, the military philosopher quite rightly put it, "until we can clarify all these terms, we cannot agree on a structured process of communication". It is about saying what we mean and mean what we say. When you say preventive maintenance or when you say predictive maintenance what do you really mean by that? This is the level where we need to start with the clarification process.

In terms of the necessity of the glossary, taking into account the effort behind the process, what do we get in return? Yes, it does allow a structured debate. It is a key fundamental issue when you start working with business process design and really building your activity blocks in your organisation in terms of information management. When you look at computerised maintenance management systems or any productivity management systems, ERP's, it is always a big issue and a fundamental building block. It becomes a key issue when you start looking at the configurations, reporting and metrics, and the whole data processing. The holy grail of maintenance, and we aren't going to start a stand-up fight right now, is about Maintenance Types of Work. That is an ongoing debate, getting some of them sorted out. My last favourite definition, one coming from a friend and colleague of mine, Graham Fogel, which he brought back from Indonesia- I think it quite applicable on some of these items under discussion.

Definitions and acronyms are a sort of hobby of mine, this is where the current list stems from. I just tend to add to the list every time I pick up on a new one and the list has grown over the years. There is a wealth of information out there when you go into websites and textbooks. Every time you open a text book or a standard, whether it is a BS or an ISO, anywhere across the world, acronyms and definitions are provided. It takes some effort to compile them and eventually these lists developed over time. The same goes with the website information. Sandy Dunn, and all those people have spent a lot of effort compiling these glossaries. There are some amazing websites for this information. They are not all that selective sometimes, but you still get useful information out. Remember, it is not the term itself, but the interpretation. International standards, standard dictionaries, the whole point is about getting credibility behind this glossary.

The website application as part of the Asset Management Council would be the useful platform, and Deryk you need to help me out here if I am going askew, but it is the platform for the discussion, for the peer review, for the whole filtering and maintenance process as well for the glossary. In terms of the requirements for the website, Deryk has already

defined initial requirements for the site to allow the access, navigation to the site, how the pages should open and so on. Including on how we feed comments back from individuals contributing to the process and submitting their ideas. It is the tool to facilitate any changes to the Glossary list as part of a structured process, whether you want to add or modify or even want to evaluate some deletions. There are a few hundred line items in there, so some deletions will be useful!

With regard to the procedure itself as defined by the flow diagram. One of the key issues there is to get to a master list initially. We can say we have that list at present and the next stage is to get on with the significant work to get it reviewed and approved. It is currently is just a go-for-all type list which we will use as a structure and prioritise according to this process. Currently as I said, it originated from websites and standards and whatever literature is available out there. Via the website to have that published and then get the review process going via the internet and in the end get to an approved published list and of course, also to maintain that published list as part of the normal web maintenance process.

What is currently in place - what we have done is just basically threw it into an Excel spreadsheet for now. This allows us to quickly find items according to alphabetical filters. They are all defined in terms of both definitions and acronyms, so we have split the two tables at present, and really a useful lot of acronyms. I think in this one there is about 460-odd sitting there but understanding it is a significant exercise to resolve the list and as I have said, when we start talking about condition based maintenance and predictive maintenance and all those things, some nice fights are coming up.

To give you an understanding of the process here, an acronym like ALARP, as defined by the asset management fundamentals training as "as low as reasonably practical", but when I look at the risk management standard, the 4360, it is "as low as reasonably possible", which one do you accept? In some cases there are going to be duplicates, which is also right. So it is really just to get this review process behind the glossary. What we hope to achieve here is also to maintain an audit trail of all the references and changes, with date stamps on changes.

All of this to go onto the website and facilitate the process whereby we hopefully get to a point where we have a "readiness for use" of statement for the items on the list, where we are 80% or 90% sure that this now applicable and valid for what we want to achieve. But that is still all part of the process. Deryk, any other additions? Is that okay? Any questions? Deryk can face them. Great, thank you.

Moderator Deryk Anderson: Thanks Johann. Folks, we've got a break for afternoon tea right now. We are due to start back in here at 4:00pm. We have then comments from the panel who has been sitting through this and seen some of these concepts and have their own views on asset management and Bodies of Knowledge. So if you convene back in here at 4:00pm for a prompt start we will listen to what the panel members have to say. Thank you.

PANEL DISCUSSION AND QUESTIONS FROM THE AUDIENCE

Moderator: Deryk Anderson

Welcome back to the panel discussion. This hour of the forum is specifically aimed at getting some comment and getting as much comment as we possibly can on the concept of a Body of Knowledge and asset management. I would like to introduce you to the five panelists precariously perched on the podium up there. They have got about six inches behind the back of their chair legs and a short painful drop to the floor below. So if you see any of them disappear you know exactly what has happened. That, by the way, was an official risk management review so if anything happens we are all clear. From your right hand side let me introduce you again to the panelists. Dr Melinda Hodkiewicz on the end, next to her is Sandy Dunn of Assetivity. Then we have Stuart Gibson from Transfield Service, Clive Moore from Silcar and Dr Fred Stapelberg from CIEAM. I am going to take them in the order closest to me as they sit at the moment and invite Dr Fred Stapelberg to come up and have his five minutes please?

WORLD STANDARD – IS IT ACHIEVABLE?, Fred Stapelberg:

Thank you. Good afternoon. Deryk, I have quite a few slides here so don't cut me too short too quickly. I am tasked with this question of establishing standards for asset management and it was quite fortuitous when the Asset Management Council approached me because, in fact, we were just looking at that very issue at the time. Besides what the previous speakers, Deryk and Pat spoke about standards; I have a little bit of a different approach. But it is based around the specific requirements for establishing standards. I am not going to go in detail through some of these because I think they have been addressed. What is a standard, for instance, benefits of a standard, adopting international standards as part of the ASNZ approach, the development phases, requesting an approval for a standard and research that needs to be undertaken to address these issues. However, what I would like to linger on is actually the development of a standard to see whether asset management in fact can, or the Body of Knowledge of asset management can be prepared for standardisation.

What is foremost of extreme importance in developing a standard is the formation of a technical committee. And out of that formation of a technical committee there is a certain level of consensus that has to be approached as to the goals and the targets for establishing that standard. There is an element of consideration of comment that is required from the broader public at large and then it goes on to developing several drafts. It is a fairly complex approach. There are quite a few drafts in the development of eventually reaching a standard. What is of utmost importance as well is openness and transparency of the process. It needs to be reviewed and looked through by selected people from the public as well as then finally publishing a standard.

Now, there are quite a few interest groups in Australia. One particularly important aspect is that the request for developing a standard must actually come out of industry, the public sector or the public. These are the interest groups. I

have categorised them into industry, government organisations, institutes, researchers as well as consulting groups because I feel the consulting groups also have a role to play there. I have taken a bit of licence in looking at some of the origin and the major players in establishing asset management. This goes right back to IPWEA's infrastructure manual. I care to call that right in the beginning application. They came out with a manual and they developed methods of application of asset management for infrastructure particularly. Then we should not lose sight of the public sector, particularly TAM. TAM started back there roughly one and a half to two decades ago, driven mainly by the New South Wales State Treasury. TAM- standing for total asset management. I see them as regulation in this whole development of asset management.

PAS 55, the Institute of Asset Management, as we have seen by the previous speaker, that specification. Then of course, CIEAM as a research body has come along and tried its best through a research approach to try and integrate many of the principles and topics of asset management, and I see them as integration. Now, I did try and make contact with the Asset Management Council, but I think at that point in time it was a bit late for me and too hurried for them. I see the Asset Management Council here as well. In fact, I see them as the fifth player and I would care to put the term below that dissemination.

So in order to be able to have this maturity model as such, this maturity growth of asset management towards establishing a standard one needs to look at right from the beginning application, regulation, specification, integration and through the Asset Management Council, dissemination. If those groups get together I firmly believe that we will achieve a standard. I have gone into detail with regard to the IPWAs. I am not going to go through that in too much detail, as well as the frameworks. These are the frameworks of asset management that these major players have established and hence me putting them up as these major players, because they have come out with very well constructed frameworks. The TAM, PAS 55, the Institute of Asset Management as well as CIEAM. I would dearly like to put the framework now of the Asset Management Council up there as well. I would also like to make this set of slides available to those at Management Council for dispersion if there are any of you that are interested in them. Thank you very much.

Moderator Deryk Anderson: Thank you. I would now like to ask Clive to come up and have his presentation.

HOW DO WE PROVIDE AN EFFECTIVE REVIEW and DEVELOPMENT PROCESS FOR AMBoK?, Clive Moore:

Thank you all. Having listened to today's proceedings and also been involved in the council itself and the AMBoK. Silcar contributes to these types of projects because we are an asset manager but the part that we are very interested in is the communication between our people in the field and something such as the Body of Knowledge. Silcar shares the same experience, I am sure, with Transfield and other asset owners here. We rely on thousands, if not tens of thousands of people in the field to go out and every day manage plant, maintain it, repair it, understand why it has failed, prevent it from failing again. So from our perspective, Silcar is interested in the human nature of knowledge. I have an issue when we start to get involved in words such as data and information. The part of this process that caught our attention is it is about knowledge. It is about collective knowledge that is coming from many and varied parts. So we are a contributor but I am also hopefully looking at lots of contributors out here. This is very much like how Wikipedia started off with an idea and grew into something that is now regarded highly as a fluid body of knowledge, where information is collected, disseminated, challenged and this is what should happen to the AMBoK.

Every day we expect our people, tradespeople, to go out and understand the tasks that they are given. What we experience from being a multi-industry, multi-client organisation is that we can look at one piece of plant and 200 pieces of information or tasks that they are given across the whole business, various organisations. There is very little consistency. So if you take a pump set of a particular type there is literally hundreds of them, but the problem is, and this is not only with us it is also with our client organisations, that they describe them in multiple different ways. The real smart way is to get something that is consistent, agreed, concise, is not highly technical, so technical that our people can't understand it. We are engineers but our people in the field are not engineers. They are highly skilled tradespeople and their experience and knowledge is valuable as well.

So there is a challenge in this to make sure that this purely doesn't become an academic exercise, it becomes something that people value, understand and work with it every day and it gives all of industry a chance to collectively view information and exchange that information so we will become better. That is my part of the discussion, thank you.

Moderator Deryk Anderson: Thank you Clive. Stuart Gibson from Transfield Services.

HOW DO WE PROVIDE AN EFFECTIVE REVIEW and DEVELOPMENT PROCESS FOR AMBoK?, Stuart Gibson:

Thanks Deryk. I'll be really brief. First of all let me introduce myself. I am not an engineer is the first thing. I am a lawyer and I am an accountant and I am an asset manager. Being a lawyer and accountant both have bodies of knowledge that help define that profession. Having a Body of Knowledge is terribly important to a professional. We shouldn't confuse a Body of Knowledge with a set of standards, because I think a Body of Knowledge is much bigger than a mere set of standards. If I look at my accounting brethren, we have standards in many parts of the world. We still can't agree on what the definition of the word "profit" is, which you might think is reasonably fundamental to the practice of accounting. I would suggest that we here in this room and around the world, we are going to argue about definitions for a long, long, long time but that shouldn't stop us from keeping the push forward for this Body of Knowledge.

So what is a Body of Knowledge? I can't remember if it was Deryk or somebody else earlier today said it has got to foster good practice. It has got to expand understanding not contract it down to tight little things. We have got to expand it out and it gives us a common vocabulary. That means that we roughly know all around the world what it is we are talking about when we are using the same language. And just like the accountants, we don't have to have actually agreed all around the world on that single definition of the word "profit" because we can argue for 200 years on that or whatever the definition is that we are arguing about. What we need to do is have a common understanding of terms and we will be able to use that.

I think we don't have to write them and invent them ourselves. There are a whole lot of people out there creating new knowledge every day. What we need to do is pull them together, integrate them as Fred says. We don't even have to unanimously agree with everything that is out there. It is enough that we agree sufficiently if you like. There is a real benefit in being a portal, a library, a container that points to other standards and other knowledge and endorses those and puts them in the right category so that we can understand what they are. So that is roughly my view of a Body of Knowledge. I think it is critically important that we develop it. I think we shouldn't confuse it with standards. We should keep it moving forward. Thanks Deryk.

Deryk Anderson: Thanks Stuart. It is interesting that you think that accountants still argue over the word "profit". At least you know which side of the ledger debits and credits go, and I am not sure in asset management we are right at that stage yet. I would like to introduce you to Sandy Dunn from Assetivity.

WORLD GLOSSARY – IS IT ACHIEVABLE?, Sandy Dunn:

Thanks Deryk. Deryk has asked me to speak briefly on the question of a global glossary; is it possible? Before I do that I thought it is worthwhile just asking the question, do we actually need one? I guess particularly in the light of the previous comments that have been made. Why should we have a common dictionary, if you like, for maintenance? Some of the discussions I have had, even in the break before coming in this afternoon revolved around TPM. What is TPM? Some people describe TPM as being total productive maintenance. Other people call it total preventative maintenance. Now, does it matter that there is a difference? I suspect that is the sort of stuff that consultants or vendors of TPM services and maybe academics get off on, but to your average practitioner in industry, they don't really care what it is called. All they care about is what it is. However, there are certainly some terms that are vitally important that we do at least, if we don't have a common understanding and a common definition for them, we at least understand what the differences in definitions are.

For example, in terms of profit, yes, there may not be a globally common way of calculating profit for every organisation on the globe but there is, if you define your profit for an Australian entity and you then need to report that to an overseas regulator, then you know how to translate that Australian profit into a US profit for reporting to US authorities. In the same way, the thing that really drives the need for a common glossary of terms within maintenance and within asset management is this same desire to be able to benchmark ourselves against one another. I guess when you start looking at the way I guess the world that we live in, we are increasingly being dominated by global enterprises. BHP Billiton operates in almost every continent in the world. It operates in dozens of countries. Rio Tinto operates in dozens of countries. BP, Shell, all of those major organisations are multi-national organisations. They, as much as anyone else, wants to be able to compare how one of their sites, one of their operations is performing in terms of asset management with another. They cannot do that unless we have common definitions and common ways of calculating some of those performance metrics.

So I would argue that not only is a global glossary of terms, particularly in terms of those terms that define benchmarking measures, not only is it desirable, it is essential in the current global marketplace. So the question then is, is it possible? I don't know if there is anyone here who has been involved with people in the software industry, Deryk aside, but when you talk to a software salesman, you ask them, "Can we do this?" and the answer is always yes. If you push them a little bit harder they will say, "With enough time and money anything is possible". I guess that is the view I think we need to take with our global glossary for maintenance definitions.

So the question is how do we go about doing that? To give you some of the indication of difficulties in terms of defining what a term means, SAE standard JA1011 spends about 20 or 25 pages defining what reliability centred maintenance is. It took a committee two years to define what reliability centred maintenance was. At the end of the day I guess we need to try and avoid those sorts of lengthy exercises. However, there are some other organisations that are already working on trying to define some common terms. One of my roles is I sit on the Society for Maintenance and Reliability Professionals, SMRP, out of the United States on their best practices committee. And one of the roles of that best practices committee is to define the terms for benchmarking purposes for the SMRP benchmarking tool. There has been an ongoing process going on for two years now to progressively work through those terms. A lot of that work has been done. Essentially, the way that that has been done is one member of the committee volunteers to develop a draft definition for a term and a way of calculating a metric. It then gets circulated and there are monthly conference calls associated with web ex meetings to discuss that amongst the best practices committee. Once that has been through that cycle a couple of times and there is consensus within the best practices committee it then goes out onto the SMRP website for public comment. You don't even need to be an SMRP member to get access to that and to comment and to register your view. So far there has been about half a dozen metrics that have been through that process fully. There is about another dozen that are up there on the website at the moment for discussion and review.

At the same time, the European Federation of National Maintenance Societies, EFNMS, have been working on a very similar glossary of terms. It is only literally two or three months ago that SMRP and EFNMS signed a memorandum of

understanding to work together to define a common set of terms that will now be shared between SMRP and EFNMS. Interestingly enough, when they did that comparison they found that more than 50% of the terms that they had already defined were already common. There was a common definition near enough. So I suspect that if we get into this process a little bit further we will probably find that there is only the occasional term that is contentious that is going to require a fair bit of work to get agreement. At the end of the day with those terms, as again has already been said, we don't necessarily need to be 100% in agreement with something. All we need to do is have universal acceptance of that. In other words, we might not necessarily agree with the definition but we can work with it. We are prepared to accept it from that point of view.

So is it possible? I would say not only is it possible but it is essential that we have that global glossary of terms. The challenge for us sitting down here in Australia is there is already a lot of work being done internationally in that area. My viewpoint is that we should be joining with those people in forming that global glossary. If we go it alone on our own then we are not as likely to be successful. Certainly not gain the global recognition and the global acceptance amongst the large multi-national organisations that dominate our economic landscape today. Thanks Deryk.

Moderator Deryk Anderson: And finally, Dr Melinda Hodkiewicz please?

HOW DO WE CREATE A COMMON UNDERSTANDING OF ASSET MANAGEMENT?, Melinda Hodkiewicz:

Good afternoon everyone. I've been asked to address the question of how do we create a common understanding of asset management? We have had a lot of talk about common vocabulary, common understanding, consistency, those sorts of words. So rather than approach it from a what- do- we mean by the term "common understanding" I thought I would look at it amongst who? Who are the people who should have this common understanding? I just wanted to see, take a straw poll of the room to find out actually who was here today interested in this provision of standards and common terminology? So I want you to think. Do you belong to one of the three organisations, are you a consultant, are you a service provider or are you an asset owner? Apologies to the academics; I know there are a few of us here. Now, all consultants please put up your hand. I'm going to count you. Okay, 14 out of 65. How many people are service providers? Thirteen, right. Thirteen plus 14: 27. Almost 50% of you are either consultants or service providers. Now, how many of you work for asset owning bodies? More than I expected. So more than 20, that's great. Now, how many of you work for international asset owning bodies? Three. Is there just three? Okay.

So that is an interesting thought because we are actually talking about it here creating a common understanding and what appears to be missing, although we are an Australian body, is that some of the people who will really make a difference to this process are, in fact, the big international players. I think one of the issues and challenges for us is actually how do we engage with them? It is fantastic that almost 50% here are actually asset owning bodies. The rest are consultants, service providers. The balance is probably academics. We all have a role to play but ultimately, I think, in order to get traction we really do need to engage the big players and get their acceptance for this process because ultimately they drive a lot of the change. So I would like to just sort of put that as a point. I am happy to debate it of course; that is what academics do. Then I also wanted to ask the question, and I open it to the floor. We are talking about creating a common understanding for asset management. Can any of you give me an example of a group or an organisation that does this well? Anybody? What do we aspire to match to? Do we have a clear idea, tell me? Is there an organisation that does what we are aspiring to do and does it well? I mean, apart from football teams of course.

AUDIENCE QUESTION

Question (Speaker): Paraphrased: Which organisations are currently considered leaders in Asset Management, Would you consider DuPont a world leader in Asset Management? <inaudible>.

Comment: Melinda Hodkiewicz: Okay. The suggestion came would Dupont fit that scenario? What do people think? Do you think Dupont is an example of an organisation that has created and maintained a common understanding? Do we aspire to be a Dupont? I don't know. I think it is important if we embark on this process that we actually consider where it is we actually want to be and it often helps to have a role model. Maybe it is accounting profession. Ask my colleague over there. Or the lawyers, or the medical profession. But I think that is probably something worth thinking about, so I leave you with two thoughts: what do we actually aspire for this thing to be, what is a good role model; and secondly, how do we actually engage the whole community not just the people who are here and the people who are engaged, as I would say, the people in the church and here we are preaching to the choir? I am talking about how do we engage with the people outside the church to be part of this common understanding? Thank you.

Moderator Deryk Anderson:

Thanks Melinda. I would like to now, and if you would, please thank all of the panelists. I would particularly like to thank them for keeping to their allotted time. Thank you. I would now like to throw it open to the floor. This is an opportunity for you to make comments, make challenges, and ask questions, observations as you wish of the panelists. Not only the panelists, but I would also invite those of the speakers that are still here to contribute to the discussion as well. So do we have some comments or questions from the floor?

Question (Speaker): Danny Azavedo from Sydney Water. PAS 55, I would regard it as a specification. It is rather a way of life that inculcates excellence depending on what discipline you are in and what industry you are in. What does the panel have to say?

Comment Speaker: I know there was a speaker that specifically addressed from the Institute in Asset Management would be more proficient in answering that question on PAS 55. However, I firmly believe if you look at the concept of PAS 55, because it enjoyed the support of Lloyds Register and because it fundamentally contains 21 predominant questions, which allows you to see whether you have a best practice regarding asset management or the various functions of asset management, I firmly believe that PAS 55 came timely. It has got its place. It is a specification. It is not a standard but it has formed a platform for further development. I don't know whether the speaker from the Institute of Asset Management would add to that?

Moderator: Deryk Anderson: Do we have another question or comment from the floor? Thanks Danny.

Question” Joseph Bernard: Joseph Bernard, Paradigm Design Software. In relation to two points made, who here belongs to an international organisation? Probably anyone who has got a website has an international presence due to the nature of the internet. Number two: how is this information disseminated? The gentlemen mentioned Wikipedia, which is based on wiki type infrastructure which is open source and created Wikipedia, which speaks for itself. So maybe tapping into an existing standard would provide the mechanism to drive it forward.

Moderator Deryk Anderson: Sorry, was there a response from the panel on that?

Comment Speaker: Could I just maybe make a comment about Wikipedia? I mean, I think that is an excellent vehicle for, the key thing with a Body of Knowledge is that it is not stagnant, it develops all the time. A wiki is an excellent way of keeping that fresh and up to date. The challenge however, when we come to defining terms for benchmarking purposes is that you can't have the definitions changing all the time. There are certain things that lend themselves to being developed through a wiki, but there are other things that really need more centralised control and a standard, stagnant, static definition for those terms that may well change at a pre-defined interval or following a pre-defined process. It is a very powerful tool and I think that is certainly something that should be examined in terms of the way that the Body of Knowledge is developed, but there is some things that you probably want to extract from that and have controlled through a more moderated forum, if you like.

Moderator Deryk Anderson: A question or a comment from Pat.

Comment: Pat Quain: Actually I would just like to pursue that a bit further. I mean, Wikipedia has run into its own grief where the idea of everybody being able to freely contribute ended up being perverted to where the quality of the information was deteriorating. But doesn't that suggest that there is an opportunity to almost create a stratified body of knowledge where there is a broad uncertified level of knowledge and then there is a certification process by which these become the reference articles. Not necessarily standards but reference definitions or reference articles or reference interpretations or reference models. That might provide a means by which we can still pursue expanding the body of knowledge and taking advantage of all the heads that are available rather than relying on the good work of a limited number of people on the council, but still have, for lack of a better term, a level of quality control and quality assurance over what goes on. The problem that I think you still have is how do you structure the information? What framework do you use for storing it so that it can be retrieved by everybody from somebody who is an expert, who has done nothing but read about this for 20 years, to a neophyte, to somebody who comes from a different field and says, "I think this asset management stuff has got legs" or "I have got somebody making a board presentation next week. I have got to read up on it." And they do a search on the web and they start querying a couple of the terms that come up. I am interested in the panel's opinion on that.

Comment: Clive Moore: I would like to probably answer one part of that. Knowledge is always connected to experience and this is purely a bit of leftfield thinking. We will only know how good we are when people apply it in the field and then provide us experience of using that body of knowledge in the field. So maybe there is two parts to this. There is a part that is stratified and there is a second part, which is almost a blog space, where people use it, provide feedback. Because otherwise, if we don't test the knowledge we will never know how good it is. We will start to be set in our belief that we have just created kind of Nirvana and things are perfect in the world. This is not an easy task by any stretch of the imagination and the wiki approach can lend to be corrupted, but I think we still must consider how we are going to test this. Again, this in the matter of two seconds it just occurred to me that we probably need a couple of different opportunities for people to connect to the Body of Knowledge but also provide feedback. So again, this is something that we have got to consider. In fact, Sandy with the SMRP, how are they approaching that?

Comment: Sandy Dunn: I guess the SMRP have a separate committee that is working on their Body of Knowledge. To be honest, I don't have an awful lot to do with them so I am not quite sure how that is progressing. I guess there certainly have been issues with wiki and it normally revolves around the more controversial or contentious issues. I think you would probably find that the page that relates to George Bush has been locked on several occasions but they automated some of that. So if there are frequent changes made in a short period of time then the page will automatically lock itself out and the more contentious pages do get moderated by a moderator. So there are some quality assurance processes that you can put in place there. But I think the comment that you made about how do you then find this information is a valid one. I think what we need, the presentation that Jim gave this afternoon, it is the second time I have seen that asset management model and I must admit, the second time I heard it it has grown on me more than from the first time. But what it doesn't have as part of it, and maybe that is the next level of detail down, is some form of taxonomy that belongs underneath that that you can then classify the information.

I guess the presentation you gave outlined a couple of standards and their alternative ways of classifying and structuring information. Maybe that is the next step, for the Asset Management Council to come up with a taxonomy that we can then use for classifying that, whether it be via phases of the life cycle or whatever. Certainly, that was an issue that we

faced when I worked with Price Waterhouse and Price Waterhouse Coopers was that we had a knowledge base called Knowledge View, but the first thing that they needed to do to set that up was to actually have a multi-dimensional taxonomy, which meant that if you are looking for something that was in this discipline relating to this business process relating to this skill set, then the intersection of those three things brought you these articles, or these definitions or this benchmarking data, or whatever it was. That is probably one of the early things I think maybe the Asset Management Council should be thinking about.

Moderator: Deryk Anderson: Thanks panel. Stuart, were you going to?

Comment: Stuart Gibson Just to add briefly, look, a taxonomy is useful in classifying things and allowing an authoritative body to certify things. But if we are talking about just how do you recover that knowledge, how do you access it, I think you can't go past the Google model, where I just search on a string of words and bring it up. I shouldn't have to know the taxonomy in order to get to the piece of knowledge that I need to acquire. If we want to have broad application of this, if we want other people outside of our profession to access it, then they must be able to access it very simply without understanding the taxonomy, but I do think the taxonomy is useful for us in terms of certifying different content.

Comment: Speaker: I guess if I can just respond to that quickly? One of the problems I found in my work was some of the terms are so ubiquitous that even in this field of standards, if you look for the word "change" and you are solely restricted to abstracts you still come with something like 650 items that you have then got to look through because it is such a ubiquitous term. "Design", which would seem to be a fairly key element of the life cycle, but to look for the word "design" you turn up a very, very large number of entries. Trying to then restrict that and digest it is very hard, which makes it harder for people to access the information that we want them to find. That is the fear I have got in the Google model.

Comment: Stuart Gibson: Yeah, I think that is right but it doesn't take my kids very long to work out that you've got to put multiple word strings in and work out how to get Google working. I think you can't throw away that model just because, look, you through "asset management", those two words into Google and you get 200 million responses. One hundred and ninety-nine million of them are about financial asset management. That doesn't mean it is a bad model; it just means we need to educate on how to get the right answer out.

Moderator Deryk Anderson: Folks, I would like to keep the discussion going. There is a question down the front.

Question: Mike Sondalini: Mike Sondalini. I have never been in a situation to see so much information about one topic put together in an afternoon. Asset management has become a massive subject and my concern is will we ever have someone who is an asset manager in the full context of the meaning of that word, as we have a medical profession; we don't have a doctor that covers all of medicine. I am wondering if the day will ever come where we will have one person who is an asset manager as opposed to a bunch of guys that do many things in that discipline? What are your thoughts on that?

Comment: Fred Stapelberg: I would like to pick up on that. I agree with you totally. I think if you look at the broadest context of asset management and how it has developed over the past two decades, it has actually become a very comprehensive, wide reaching concept in fact, with many, many multi-disciplines as well as many, many organisational functions involved in it. Quite honestly, I don't think you can get, logically speaking, by the true sense of the term, a single asset manager. Unfortunately what has happened in the past, particularly with the typical engineering organisations tended to pick up on the concept of asset manager and you found many maintenance managers being redesignated as asset managers, much to their own fear, in fact, that their responsibility has just blossomed out with basically no boundaries.

I do believe though, and I would like to add this in context to what you are saying, many of the larger organisations, your BHP Billitons, your Rio Tintos, Rio Tinto is spending a bucket load of money on establishing global asset management. One has to stand back and say why a big player like that, the second largest mining industry in the world, is spending so much money on asset management? My feeling is that what has happened in the past before the so called globalisation of many enterprises you had silos established in organisations. I think that many of these large organisations see asset management as a means, maybe not a means to an end, but as a beginning to try and break down many of these silos in different areas of their enterprise where the silos need to be broken down. There are different parts of the enterprise where these silos are better left alone. The subsidiary functions better with the silos. But I think in general that is the trend I see with the larger corporations and I feel that is why this concept of asset manager and establishing an asset manager, per se, has come to the fore.

Moderator Deryk Anderson: Thanks Fred. Does someone else on the panel have something to add to that?

Comment: Sandy Dunn: Is there someone acting in a role of asset manager? I think in large organisations there probably is and it is called the managing director. That is the level I think that we are talking about. If you took a large organisation, part of Rio Tinto such as Pilbara Iron, that is where all those aspects of asset management all come together is at managing director level. Now, they have a manager of asset management who also works within Pilbara Iron, but the reality of it is that asset management, as it exists at the moment with Rio Tinto, despite all the time and effort that they are putting on it, is really not much more than maintenance and reliability support. They may well have aspirations for it to be broader than that, but the reality of it is they are not there yet. So I think you are right, particularly in the larger organisations there are specialists who deal with the various parts of that.

One of the encouraging things I guess though is the previous manager of asset management for Pilbara Iron has just been promoted into a general manager of operations role within Pilbara Iron. The previous manager of engineering and

asset management is now the general manager of their entire West Pilbara operations. So a role in that asset management space, at least within Pilbara Iron is now being seen as a good stepping stone to a line management position at senior levels. I think maybe that is something that the larger organisations could think about as a structure and a way of creating that awareness of some of those asset management principles at a general manager/managing director level.

Moderator: Deryk Anderson: Melinda, were you going to comment?

Comment: Melinda Hodkiewicz: Mike, I was just thinking that we are, really just to echo what Sandy said but in a broader context than just Rio, that we are seeing, certainly in Western Australia, that all the major asset owning bodies or a large number of them now have somebody who has the title "general manager asset management". We have a mailing list for them actually, and I think there are about 28 names and that is their title, and that wouldn't have been the case a year ago. So, I think it is an evolving space and we are seeing people being put into that role. Exactly what that role means to them and in that context is different but they have a title and somebody is giving them a brief. Exactly what that brief is- it is obvious that people have different views but it is an interesting development and it is ongoing.

Moderator: Deryk Anderson: Folks, we've got about 10 minutes left. There is a question half way down there.

QUESTION: David Washbrook: David Washbrook from Qenos. Just following on from that, is it that managing directors now can be held accountable or responsible for incidents in the workplace, personally responsible, that they need to know that the job is being done properly and the only way is to have everyone doing the same thing?

Comment: Clive Moore: There is no reason why not. CEOs, chairmans of the board are responsible for safety. At the end of the day they are responsible and accountable for environmental performance of organisations and there is absolutely no reason why a CEO or an MD should not be fully aware and prepared to put into print the performance of his assets. The large organisations report within their quarterly reports and annual reports on a whole range of outputs, which include obviously production and finance, environmental performance and safety. There is a big gap called asset performance and I think it is something that can happen. In fact, the Body of Knowledge can actually help that by giving some common phrasing to how they report on that. But at the end of the day, the assets of Rio produce revenue and profit and that is what a CEO and a chairman of the board is accountable for.

Comment: Melinda Hodkiewicz: I might just add that something that has come up in discussion at these general management meetings has been a real emphasis on understanding and quantifying the risks associated with their assets, and that is something that hits across the board level, managing director level. I see a common aspect in terms of the role these general managers see in themselves as being able to provide better information to the board about the risks associated with the condition of their assets. That is very much an asset management type role but it is closely linked to risk management.

Moderator: Deryk Anderson: Other questions from the floor?

Question/Comment: Ian Thomas: What a perfect lead in. Thank you very much. Ian Thomas, this afternoon representing the Risk Engineering Society, which as you all know, is a sponsor of ICOMS. I have to say how correct that is, but I also have to say that back in 2000 the late Peter Robinson, bless him, realised the importance of understanding risk, of managing risks, of analysing accidents that have happened and of learning from them and doing things differently that he tried to get, or indeed did get some input from the risk sector into ICOMS 2000. There has been a little bit of risk ever since in subsequent ICOMS, but I am just so delighted that this year we have an actual segment and a total of six presentations. So you are so right and I would just like to commend ICOMS for realising that this other discipline known as risk engineering is very much a part of us. If only we would learn. We don't, is the problem. We had Buncefield in 2005 causing millions of pounds of damage. We had BP Texas, when was it, 2006? With bias, come along and listen to me tomorrow. Thank you.

Question: Robert Lennon: (Australia Post). I just want to make a couple of observations. First of all, you made the comment before about a Google search turning up lots of advertisements, if you would like to say, for asset fund management. I think it is significant that even in their own presentations I have seen so far we have mentioned facilities management, engineering asset management, infrastructure asset management, physical asset management. So for a start I think we should start by defining who we are going to be. The other issues that that relates to me, and I have got some remarks down here. Fred, you were talking before about what is an asset manager and the way we are looking at it in Post is, that anybody who has any responsibility for management of an aspect of the life cycle of an asset has a role within asset management. So an asset manager isn't a professional position within Australia Post, it will be a role. It is a defined role within our organisation. I would just like your comments on that view.

Comment: Fred Stapelberg: I think the best comment I can give you is by throwing a cat amongst the pigeons and saying that some organisations are now talking about asset engineers.

Moderator: Deryk Anderson: Has someone else on the panel got a comment on that? I share your view. I think if we sit here and talk about four types of asset management, at least that we have heard today: the infrastructure, the engineering or physical assets, property and financial, where does that lie? But on the basis of what an asset manager is, is everybody that works within that framework of asset management truly an asset manager?

Comment: Clive Moore: From a perspective of I guess a service organisation like ourselves; we only survive by imbibing our people that work with us in the field and also in the back office with the fact that they have to act like asset owners.

That connection, once you have it, is quite a cultural change and people act differently but we constantly encourage and coach and lead them to the fact that think how the owner thinks. I believe we've got 3,000 asset owners out there.

Comment: Johann Taylor: Maybe just a few comments here as well. Asset management, when you talk about assets is really defining what type of assets. So the generic part of being an asset is still there, so whether it is a physical asset, a knowledge asset, systems asset, people asset it doesn't really matter, from our perspective at least. How you manage people assets and how you manage machine assets there are some similarities. You need to be a little bit more tactful when you start talking about the people assets on that side. It is a generic discipline; the principles are the same. You can spread it right across the board. I thought the analogy for the medical profession was quite apt. Really having asset managers at all levels. They each have their own role to play. When you look at a medical practitioner, just an average guy, being able to identify these areas of concern, being able to direct it to more specialised focussed areas to address and cater to more specific issues, that is all part of a process. We have to structure organisations accordingly. I just think it is a whole alignment process. It is a whole educational process where everybody needs to understand. I think the important part there is really the stuff you don't know about, being able to use that a level to initiate directing it to the guys in the company that do know at that particular level. So it is really everybody at every level and it is just really an alignment session and I don't think we are really prepared for it at this stage..

Comment: Fred Stapelberg: Could I just add a point to that? I am going to talk about CIEAM but it is very much in the context of these questions. CIEAM stands for the Centre for Integrated Engineering Asset Management. It is a co-operative research centre. Originally when the first bid went to try and get federal government funding the name was the Centre for Asset Management and the federal government came back and said, "That is too broad" because at that stage you were looking at financial management. "What are you actually researching in the field of it, more in the engineering field?" So the name changed to the Centre of Engineering Asset Management. Then during the formulation of the business plan of this research centre, in total, which is in kind as well as cash as well as federal government funding, you talk of roughly \$86 million over a period of seven years, so it is not mean money for doing research in this field. In developing that management plan what was realised was this concept of integration because asset management is so broad and especially call it physical asset management or engineering asset management. Our research participants, we have six universities that are research participants to the CRC, and if you have a look at the different faculties that are playing a role in researching asset management they are three fundamental disciplines: engineering discipline, the IT discipline and the management discipline. So already you have different disciplines. In other words, it is interdisciplinary and it is very broad. Consequently, the research centre decided to go the path of integrated asset management with the realisation that you couldn't have individuals trying to represent the entire scope.

Moderator: Deryk Anderson: Thank you. Ladies and gentlemen, I do have one closing comment from the back.

QUESTION: Speaker: I would just like to make one comment. When you are creating the glossary of terms you need to make sure that the term contributes value to the practitioners of the profession. I don't think there is any value in defining terms that aren't of significant value. So let's apply some asset management principles to the glossary itself, ensure that there is value in having the term defined in the first place. It was touched upon before but I would just like to leave you with that thought.

Moderator: Deryk Anderson: Thank you. I am going to have to wrap that up. That is five o'clock. We have other things to go to now. Would you please thank the panel and the speakers for their contributions today?

On behalf of the panel and the speakers and the Asset Management Council and everybody else involved in this I would like to thank you all today for your attendance, for your interest and for your challenges and comments and I challenge you that regardless of what you think you have got out of it today, we are all working in the asset management domain and please keep the conversation going. Thank you very much.

END OF TRANSCRIPT