

TIPS Steering Committee Meeting

Notes from April 17 - 19, 2000

Western Regional Coordinating Center

1999 Broadway

Denver, CO

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Monday, April 17, 2000

Meeting convened at 1:02 p.m. in 33rd floor conference room of WRCC offices. Assembly called to order by Bill Clark, TIPS Team Manager. Brief introductions made by all present, followed by opening remarks by Brent Wahlquist, Steering Committee Chairman.

Summary of Opening Remarks by Brent Wahlquist:

Mr. Wahlquist briefly reviewed the current situation in West Virginia regarding lawsuits related to mountain top removal and stream buffer zones. Kay Henry, Acting Director, is heading to West Virginia to work on these issues. The Justice Department is filing a brief in the case. Mr. Wahlquist stated that because of present legal difficulties and anticipated future events, there will be a strong need for sound technical decision making in issues related to surface coal mining operations. To support a reasonable decision making process, a strong technical base must be established.

Mr. Wahlquist identified the major goals to be accomplished by the Steering Committee during the next few days of the meeting:

Make decisions on core TIPS software,

Lay out the direction TIPS will be going in the future, and

Solicit responses from the members of the committee regarding changes in TIPS program.

Summary of Introduction by Bill Clark:

Mr. Clark referred committee members to the binder provided before them for their use. The binder contains the meeting agenda, schedule and order of presentations, and a hard copy printout of each slide used in the presentations. Mr. Clark briefly reviewed the order of events to occur during the meeting and invited committee members to ask questions during presentations for clarification. (During each presentation, PowerPoint slides were used for illustration. For brevity, the content of the slides is not repeated within this report but is incorporated by reference to the binder given to each committee member.)

Opening Presentation on TIPS by Bill Clark:

Mr. Clark reviewed the issues identified at the June, 1999 Steering Committee meeting and gave short descriptions of the progress made by TIPS on each issue. Highlights of this progress include:

The National Team has been realigned,

New members have been added to the National Team,

The TIPS charter has been modified to accommodate new services, organization, and functions,

TIPS has identified 43 customers and is working to provide needed services,

Service Managers have been appointed to help provide customer support,

Hardware requested by customers has been provided,

Numerous software applications in six functional areas has been reviewed and tested,

Network licensing methodology for desktop applications has been determined,

More emphasis is being placed on training,,

TIPS has increased training by 300 percent,

Training evaluations are being closely reviewed for improvements in courses offered,

Better coordination with NTTP has been achieved,

A TIPS information system to include a people database and project management is in progress,

TIPS is planning for future work in imaging technology,

TIPS plans to further expand its training program in several dimensions, and

A National TIPS Forum is being planned for FY 2001.

Steering Committee User Reports:

Rick Koehler, New Mexico - In discussions with other members from western states on the WEIB, training is at the top of the list of their needs. There are some very good packages included in TIPS software suite, but their staff's ability to use it to maximum is an issue. Another issue is getting software to the user's desktop. Windows NT is easier for them than the Unix platform. They would like to see more project based training. They like the idea of having a TIPS expert coming to the state program and working hand in hand in training their staff in software suites. They would like to see continued support of some of the software packages traditionally used in TIPS. There is a need to strike a balance. They have concerns about some of the hydrology software packages and would not like to see ArcView orphaned. Years ago, TIPS bought software and distributed it to any state that also wanted it, but now there is more of an effort to tailor the software packages to the state's needs.

Loretta Reichert, Montana - All of the states are very excited about conversion to the Windows NT operating system and migration of TIPS software to the user's desktop. Montana is excited about Internet applications. All four states are appreciative of TIPS and are dependent on TIPS. These states have some apprehension about becoming so dependent. What is going to change? In Alaska, system administration is very important. What degree of system administration and hardware support is going to be provided? GIS is important to them. North Dakota is not interested in GIS at this time. Training and dissemination of information about training is important. One concern across the board is obtaining timely, consistent upgrades of software. The Service Manager will be helpful in this. The states want regular upgrades of software. The states are supportive and excited about the Service Manager concept. There exists some apprehension among these states about what will be in the core software and the number of licenses available. Thank you for the support.

John Riley, Colorado - Colorado has concerns about training, engineering applications, coordination of software, and what software is loaded on individual machines but not loaded on servers and therefore is not available to everyone. In some cases, we are using three or four versions of software. Licensing is of concern. Dissemination of software is of concern. We have a lot of old SedCAD users who used it for digitizing. Now, there are lots of moans and groans about the lack of digitizing support in SedCAD 4. We are interested in imaging. Being able to use GIS for document imaging instead of relying on a piece of paper is of interest to us.

Carl Campbell, Kentucky. I am looking forward to you coming to Kentucky to see what we are doing in Electronic Permitting. Our first electronic permit was submitted in November. We are getting a second employee in GIS. We are trying to move forward in GIS to use it to handle citizen complaints. GIS is one of the best things to come out of TIPS. The Electronic Permitting workshops TIPS offers is very useful. All of this is from Illinois. Indiana says they are very happy with equipment support. Virginia wants to use more ArcView and ArcInfo and

wants more GIS training. Kentucky has a complaint about a hotel in Pittsburgh used during a previous TIPS training course. We have five engineering workstations but TIPS is unable to provide software. We also need a digitizer. We are requesting 10 site licenses for SurvCADD 4. AML in Kentucky is using some of the TIPS software for site work.

Billy Chovanec, Texas Railroad Commission, Surface Mining - Mississippi and Louisiana are very appreciative of TIPS support. They like desktop applications. Louisiana is an AML program only. If the software is on the user's desktop, they will realize more benefit from it. Individual applications are smaller and more costly. Big applications require a great deal of training. Mississippi has sent people to training such as earthVision. Every time they get somebody trained, they leave. The TIPS group was extremely responsive to members comments. GIS is far more important than anyone realized. It can be very inexpensive and very helpful. Although we only come together once a year, one of the things Texas has taken advantage of is participating with the Service Managers. We have tried to provide people to participate in software training. We have realized a great deal of benefit from this. Employees who don't know what the Steering Committee is have been informed by those who attend. We have two people who are big AutoCAD users, and they are now working with ArcView. We realize a lot of benefits from our employees interacting with state employees in other programs, and the benefit to us is much greater than the loss of their time for a few days.

Mike DiMatteo, Pennsylvania - I represent the IMCC and some of the eastern states. Maryland is a small program. TIPS is very important to them because they don't get a lot of support from their own state agencies. They never really use Unix very much but they do use the Windows NT workstations. They don't have the software for it. They are looking forward to finding out what they will get on the Windows NT platform. They have worked well with Tom Mastrorocco and Bob Welsh. Ohio has five offices. They have internal conflicts. They need high speed communications, more training, on-site training, and project specific training. Ohio is not overly happy with support they have received from the Appalachian region. Virginia is a heavy GIS user. They are heavy in ArcView and ArcInfo, and are happy with the selection of Bill Card for their Service Manager. They think this is a good match. For them, training is the number one priority. They want more site specific training using their own data sets. They are also looking forward to hydrology software. They have noticed that ArcInfo licenses drop when training is in progress, and this has caused some problems for them. Pennsylvania has several offices with about 450 people working in mining at the state agency. TIPS use to date is not what it could be because the software has not yet reached the user's desktop. We think use will increase dramatically when TIPS software arrives at the user's desktop. We are looking forward to using ArcView and ArcInfo. We are also looking forward to working with Bob Welsh; he

cares about Pennsylvania a lot. We got two servers last year; one has become an ArcInfo server. We have 17 ArcInfo licenses. Tom Mastrorocco was up last week installing ArcInfo. We have a lot of permits. 186 new permits were issued last year for Pennsylvania. A Notice of Intent to sue is in progress. We need support. (This last statement was directed specifically to Van Weaver, who was taking notes. Van responded that OSM is aware of the need for support but ARCC is doing all they can.)

Larry Evans, West Virginia - It is hard to describe where we are. Everything revolves around litigation these days. Technical computing requires a good geospatial data model. With the advent of the mountain top mining lawsuit, we have seen an exponential increase in interest in GIS, hydrologic modeling, and everything connected with technical computing. The first big lawsuit we had was over TMDL (total maximum daily loads). We are in the midst of a change in paradigm. Now, we have to take into account the allocation of waste loads in watersheds. We have a time line when we have to have that done. Other suits are also pending. They are stacked up like cordwood. Future use of TIPS applications is an absolute have to. We will have to focus as much activity as possible on GIS using such software applications as ArcInfo, ArcView, and earthVision. The CHIA process and TMDL have to be intertwined. Our watershed characterization modeling system is a CHIA like application. In 2001, we hope to show what that is like. These are our major front end tools for the permit review process. We see the new hydrology applications as very useful. We have less enthusiasm for Statgraphics, we can do that in ArcView. In conclusion, in the next two to three years we will see an exponential increase in number of people using GIS. We see a significant increase to probably 250 users. Scaling up to this level without training is not possible.

Greg Melton, Arkansas - I am representing Arkansas, Alabama, and Oklahoma. In Alabama, the AML program is doing in-house reclamation design using SurvCADD and AutoCAD. They need hydrology software. They are happy with SedCADD but could also use a 11" x 17" flatbed scanner and the software to make it useful. Alabama has four engineers using TIPS through a networked Unix box. On the permitting side, they are using a TIPS server to increase the number of GIS coverages. They are keeping up in electronic permits. They have two EP applications and say they are doing well. The problem with industry in Alabama is that the industry has more money and equipment. The Alabama legislature does not provide enough money. Were it not for TIPS, they would be further behind. They would like to see more visits from OSM. In Oklahoma, the Title 5 program wants more money and more training. I don't know about their Title 4 AML program. (Comment from Bill Joseph who says that AutoCAD and the CAD extensions are very useful to them. Bill says they are trying to replace a bunch of their equipment.) Arkansas has just had its first permit approved in several years. Three engineers are doing reclamation in house. Two use

SurvCADD. The state needs updated SedCAD. They hope to get more into GIS using ArcView.

Willis Gainer, OSM Albuquerque - OSM is the regulatory authority for mining on Indian lands. OSM works with the Crow, Navajo, and Hopi Indian tribes. The Crow Nation does not have a TIPS station. All three tribes have Title 4 and Title 5 programs, but only AML is approved. The Crow Tribe has a limited need for a TIPS workstation. For the Hopi, the Black Mesa coal mine is now moving onto the surface. Greg Morlock helped establish a workstation for them. There has been limited use of it to date, but they are excited to have it. They have a state-of-the-art GIS system and hope to tie it into permitting. The Navajo Tribe has the highest use of TIPS equipment, and that is in the AML program. There are three offices. The main GIS operation is in Shiprock. They are using AutoCAD in house. Shiprock was connected to WAN last year and would like to get another office connected next year. They have a problem in licensing AutoCAD. On the Title 5 side, there has been limited opportunity for their staff to use it. They have used it to monitor pit movement. They are hoping to hire a hydrologist to work with it in future.

Buck Miller, OSM Federal Program for Tennessee - OSM has had a Federal program in place in Tennessee since 1984. In the last few years, we have spent a significant effort in digitizing mining related information. We use ArcInfo and ArcView. We have digital copies of standard USGS quadrangle maps on line. We have made these digital maps available to our external customers in AutoCAD format, and they have been very popular. We tapped other agencies for hydrologic modeling data-sets, such as water intakes. We have done a lot of digitizing related to permitted mine-boundary information. This includes critical earth-fills, mine permit boundaries, haul roads, and sediment basins. We have had significant activity in Electronic Permitting. Recently we have had to shift our resources to West Virginia to help out on the mountain top mining issue. We are now converting to the Windows NT operating system. We are also working hard on developing attribute databases to tie into our GIS for future modeling capabilities. All of this requires a lot of time and is expensive. We need T1 capability. We think our TIPS use will expand exponentially, and this will make it more difficult to use the software without high speed capability. For us, license availability is an issue. It is a problem when we get disconnected during software use. We hope this problem will be a short term concern.

Bill Joseph, OSM Mid Continent Regional Coordinating Center - I am speaking on behalf of Charles Sandberg who could not be with us today. We have a plotter

going to the Tulsa Field Office and another plotter going to the Indianapolis Field Office. This is excess equipment. We got GPS units for all MCRCC field offices last fall. We have been working with Texas, Alabama, and Illinois. Right now, we have a big push on getting the IRM staffs and field office staff up to date with Windows NT. We are doing installations and hardware/software support for our region. And we are trying to get more of our field offices on line using TIPS.

Bill Clark, OSM Western Regional Coordinating Center - I am speaking on behalf of Pete Rutledge. Here in Denver, the Program Support Division does permitting just like the states do. We also work with field offices like Casper, etc. We are setting up the Western GIS project. Another side of TIPS involves using GPS units. Some of the inspectors in the Albuquerque Field Office are using GPS in their work. Willis Gainer is pushing GPS use there.

Van Weaver, OSM Appalachian Regional Coordinating Center - I have been on again, off again on TIPS. The last time I was involved in TIPS was in March, '98. I think I am on it full time now, after the last restructuring. I now have TIPS staff; we are under the Technology and Support Group. Two years ago, when I heard about the disproportionate staffing in TIPS with respect to participation from the Appalachian Region, Mike Dunn was beating his fist on the table. Now, he seems more passive. Now we have more Appalachian staff on the TIPS group. We have a lot of issues on the table, such as mountain top mining, etc. We have been trying to support TIPS. We now have 11 new Dell computers for TIPS to use in our Pittsburgh training room. Two years ago, I brought the message that when software decisions are made, experts in that field need to be consulted. That is being done now, and we are much appreciative. As for GIS, ArcView and ArcInfo are being used a lot. A lot of our plotting and digitizing is done using GIS. I can't go into details right now because of litigation. I hope I am staying on TIPS this time.

Presentations by TIPS Personnel. Refer to Hard Copy Printouts of Presentation Slides contained in Committee Members Binders

Topic 1. Progress of Conversion to Windows NT Operating System by Greg Morlock.

Discussion: A committee member asked what is the direction of the TIPS program? The response was that TIPS will not concentrate on hardware as in the

past, but will continue to support the purchase of some hardware items, such as digitizing tablets and scanners. However, TIPS will make a conscious effort to stay away from administration issues related to hardware items such as desktop computers and Windows NT servers. System administration will only be provided on a case by case basis as necessary. Most states have their own ability to perform system administration. TIPS will work with the system administrators. It is best for the states to become self reliant in this arena. It was also pointed out that TIPS does not want to compete with private industry in software issues. TIPS will tailor the training it offers to benefit its customers who have mining related needs. For software, TIPS will be providing software on the user's desktop through a networked license management system and will monitor use of the software provided for future adjustment in the number of licenses being offered nationally.

Topic 2. TIPS Software License Management by Bill Joseph.

Discussion: Ray Hill is the main person working on the license manager issue. Various license manager software have been reviewed. KeyServer from Sassafras has proven to be a good product. KeyServer is used by many large corporations. It is used on desktop suites and Microsoft packages. TIPS will be trying to use it on hydrology packages and other technical software. This type of networked software licensing will become prevalent. KeyServer is about the only software package that does about everything TIPS will need to do. KeyServer will be located in Alton because Ray Hill is in Alton, and he is the one who is most familiar with it. TIPS is considering shadow server locations. Key clients are installed on every desktop software that needs to be metered. TIPS has to buy enough clients for the desktops of all the users who will use it. As for cross domain performance, TIPS has tried it on firewall connections to get through to the Internet, and it works fine. Indiana has used it successfully to check out a license. The cost of KeyServer depends on the number of clients. For TIPS, it is about 35 to 38 dollars per client. The client is installed on the user's desktop. When a service is launched on the desktop computer, the client waits on any program to ask for a license. The cost of the KeyServer client is only for the client application, not for each application on the user's desktop. The Service Managers will be making determinations in the future as to how many clients will be distributed to each state. Ninety nine percent of the software vendors for which TIPS is considering distributing software have given their permission to use KeyServer as a license manager for their software. TIPS will make its best guess as to the number of licenses to buy. The reality is that TIPS will be short on some and over on others. The good thing about KeyServer is that it will help collect the user information TIPS will need, and it will cue requests for licenses from a user. For example, if a user is silent for an hour he will get kicked out to

make room for the person next in line for the next available license. So, although TIPS does not know exactly where the numbers will land for the software licenses, we can record license use and take appropriate action in the future. The number of licenses used per state can be metered by the license manager. License use can also be cued by IP address level, and restrictions can be imposed. Launches can be denied. But TIPS is not proposing to do that. TIPS plans to leave it open for the time being and see what develops. No decision has been made as to who will be administering the license manager system. In general, TIPS users will not know the license manager is there. The user may think the software is coming from their own LAN. We have not decided whether to put out a banner when an application is launched. Consideration is being given to having shadow servers installed in the event the central license manager goes down. TIPS may have a KeyServer East and a KeyServer West both of which contact the central KeyServer location. This would be a redundant system in which all server sites can talk to each other. Several options exist to deal with the problem if a LAN goes down and a license is checked out from KeyServer. Various standards can be applied. Portable licenses are possible. The yearly maintenance cost is approximately eight to ten dollars per client. To implement the KeyServer system, Key client is installed on each user's workstation. An executable copy of the software application is "wrapped" by the Key client. This presents a critical problem in implementation. Either TIPS personnel will have to install TIPS software on every machine or TIPS must have a MOA with its customers wherein they agree to follow KeyServer license procedures. The software vendors are concerned about this issue. On every user's workstation, the .exe file must be replaced after installation with the keyed version. TIPS does not want its software installed illegally on workstations. The situation with GMS software is uncertain because it has a dongle with a specific IP address. To date, all of the TIPS proposed software packages have been able to get through fire walls. However, TIPS does not know what will happen if security measures are imposed. There are no known conflicts with other TIPS software license managers such as FlexLM (for ArcInfo and earthVision) and AdLM (Autodesk License Manager for all AutoCAD products). However, TIPS will need to know about other license managers used on a customer's LAN. As for software versions, the key client is keyed for a particular version of the software. If a new version is to be installed, a new keyed executable must be installed.

Decision: The Steering Committee, after thorough discussion on the subject, decided that customers using TIPS software packages must sign a MOA concerning the use of TIPS software and pledge to observe KeyServer licensing procedures.

Topic 3. Slope Stability Software Presentation by Lou Hamm.

Discussion: TIPS proposes to buy 10 copies of Galena. By selecting Galena, no functionality is lost compared to SB-Slope. Galena costs \$1,500 per copy. A KeyServer version is not yet available. SB-Slope costs \$600 per copy. Rockware is the distributor for Galena.

Topic 4. Surface Deformation Prediction System (SDPS) Software Presentation by Lou Hamm.

Discussion: Carlson, the SurvCADD distributor, provides the software.

Meeting adjourned at 4:22 p.m.

Tuesday, April 18, 2000

Meeting reconvened at 8:03 a.m.

Topic 5. Hydrology Software Presentation by Steve Parsons with contributions from Dan Erbes and Phil Reinholtz.

Discussion: The Hydrology Team was formed in July last year to evaluate the status of hydrology software available for the new Windows NT desktop platform. The group works well together; members find it professionally satisfying to be a part of the group. There is not a single software package available to answer all hydrology questions. One of the basic questions asked during software review was how good the CHIA process was to begin with to produce the model? In hydrology investigations, the first task is to get a model and find what best fits the data. The team determined several important considerations. One of these included compatibility with other software (the ability to read other data formats produced by other programs), and output (the ability to export the data from the software to other applications). Most of the software evaluated will probably be

adapted in the future to read database files. Presently, in-house staff may be required to convert the data from database files to ASCII text files. Ease of use is an important consideration; if you don't use it all the time, you forget how to use the software the next time. Sometimes, it is important to get a quick answer to estimate the problem. A typical groundwater project will require a man week. Groundwater issues will become more prevalent in the future, especially for bond releases. West Virginia will be doing a lot of hydrologic modeling for TMDL's. However, the Hydrology Team was not able to evaluate the software for particular needs such as TMDL. The team believes there will be a steady use of hydrology software because the need has always been there. The team consulted with other hydrologists, asking them how often they needed it and when they needed it. The software vendors will be working with TIPS to help provide training in the software. To determine the number of licenses which may be required, TIPS relied on responses contained in the software survey and adjusted the numbers based on reasonable guesses about concurrent usage. However, TIPS will not know the true usage until the software is made available and its usage can be monitored over time through the license manager.

Note: This presentation was interrupted to allow ESRI to make a presentation before lunch.

Topic 6. Presentation by ESRI Representatives Eric Shor and Ralph Anhold.

Discussion: TIPS believes that ArcInfo 8 will have a significant impact on its operations in the future. For this reason, TIPS requested ESRI to make a presentation at the Steering Committee meeting to allow committee members to ask questions and get answers directly from the vendor. ESRI's development strategy for its software is to adopt a common programming language to customize its products. This strategy is being pursued because it will dramatically shorten development time. However, this means that Avenue, the programming language for ArcView (which is written in this same programming language), will not be supported in future versions of ArcView. ESRI's plans for ArcView indicates that it will generally function as a subset of ArcMap, an application contained in ArcInfo 8. Because of the ability to network license ArcInfo 8, the inability to network license the ArcView extensions to obtain ArcInfo 8 level of functionality, and the price-point issue of purchasing ArcInfo and ArcView, TIPS must reevaluate continuing with ArcView. For TIPS users, many of the skills acquired from learning ArcView will be transferable to using Desktop ArcInfo. Both applications have graphical user interfaces. However, the mechanics of performing operations will have to be relearned because the user interface is not the same. As for customers who have developed a significant number of Avenue scripts for ArcView, there will not be an easy way to convert Avenue into Visual

Basic which is used to program ArcInfo. However, there may not be a strong reason for a customer to convert the scripts. ESRI points out that if Avenue scripts are satisfactory in their current performance, there may not be a sufficient reason for the customer to abandon the old version of ArcView or upgrade to the new version of ArcView which will run with Visual Basic for Applications. If a problem exists, the scripts can be converted at a cost to the customer, by ESRI. As for spatial data storage options, both Oracle and ESRI offer products to integrate spatial data and attribute data. There are differences between the products. Oracle is limited to simple spatial objects. SDE offers options; Oracle Spatial Data Cartridge options are limited. SDE is fastest in performance, but Oracle has gotten closer. With greater complexity of the data, SDE is better. Also, SDE stores raster objects. SDE is huge with other federal agencies. The future of data storage technology is with SDE. As for ArcView, ESRI plans to release version 3.3 for sure, maybe 3.4. At some point, ArcView 8 will be released, and it will work with VBA and be a subset of ArcMap.

Topic 5 (continuation). Return to Hydrology Software Presentation. Contribution by Ken Wyatt.

Discussion: Although the outcomes of the review for water chemistry software were very close, the Hydrology Software Review Team recommended buying AquaChem over Hydrochem. They also recommended buying a limited number of copies of GeoChemist Workbench. There was a conscious decision made a couple of years ago to avoid duplication between TIPS and NTTP in functional areas. However, we want to avoid the situation where if you were teaching for one program, you could not teach for the other. There are perhaps only 40 to 50 hydrologists nationwide. The Hydrology Team being proposed should be able to work together between both programs. A transition period may be required. The TIPS training program will be focusing on developing courses related to mining and reclamation issues. Because training from vendors is not specific to mining issues and the cost per student is expensive, we will be relying on our own staff for instructors and course development. There is a concern about a lack of personnel for these tasks. TIPS will have to focus on specific areas. It is unrealistic that TIPS will be able to develop five new courses over the next two years. It is more likely that TIPS will produce one or two next year, and then perhaps some more the next year. There may be some software packages for which TIPS will not offer training.

Topic 7. TIPS GIS Strategy Presentation by Alan Wilhelm.

Discussion: TIPS has never supported ArcView on Windows platforms, only on Unix. TIPS does not store GIS data for its customers. TIPS only serves up licenses to support GIS applications for its customers. The cost of ArcInfo 8, including its four extensions, to TIPS through the USGS contract is \$2,800 per license. ArcScan may be of use to some of TIPS customers because they have requested scanners and vectorizers. When TIPS buys ArcInfo through the USGS contract, it has a better price-point than do other ESRI customers attempting to buy ArcView and its extensions. The ArcView extensions run on stand alone computers, can not be network licensed, and this makes ArcView very expensive for TIPS. As for learning from experiences of other GIS users, Illinois has an interactive website which is actually a lab and has a list of things not to do in GIS. TIPS will continue to support training of ArcView because of the survey results obtained from its customers.

Decision: The TIPS Steering Committee agreed to the strategy of phasing in ArcInfo 8 and phasing out ArcView.

Topic 8. Consideration of Hydrology Work Group Strategy.

Discussion: The Steering Committee returned to the issue of establishment of a Hydrology Work Group as previously discussed. Mary Greene will be the Team Leader. The membership of the group has not been established. TIPS will work with the managers of the proposed members to decide who the final members will be. A mixture of state and federal members is envisioned. NTTP should be involved. Training is the biggest issue.

Decision: The Steering Committee approved the strategy for establishment of a hydrology workgroup.

Topic 9. Geospatial Data Policy and Remote Sensing Presentation by Larry Evans:

Discussion: Larry Evans described West Virginia's experiences with electronic permitting, data conversion, layer development and attribute data management in building a GIS. West Virginia has established 10 defined layers for SMCRA information. TAGIS had to establish standards with respect to allowable data

error, geospatial data policy (coordinate system issues), and data collection, establish guidelines for aerial photography and consultant CAD data, and assign responsibility for distribution of geospatial data. West Virginia is now doing regional watershed reviews using TMDL's and CHIA procedures because of current litigation. They expect to soon be sued over subsidence and anti-degradation issues. West Virginia has a need to monitor landscape change over time. Remote sensing will be useful to meet this need. The state is now beginning to receive data from USGS after the entire state was flown in 1996 and 1997 under the national aerial photography program. West Virginia also has interest in obtaining other imagery such as LIDAR (dependent on one time funding from OSM), color infrared aerial photography. West Virginia would like to acquire its own digital airborne imaging system to add near infrared imaging capabilities to look at revegetation issues such as upwelling of acid materials on AML sites and erosion. With a thermal imaging band, they will be able to see subsurface features, mine fires, soil moisture, underground openings, and subsidence. With this capability, the state will be able to take preventive action to reduce the expense of remediation costs. The Steering Committee was asked to consider remote sensing as a future initiative in TIPS.

Topic 10. GPS and Remote Sensing Presentation by Bob Welsh.

Discussion: TIPS would like to acquire 15 new GeoExplorer 3 data loggers with real-time beacon correction capability and Pathfinder Office 2.5 processing software. These units will give accuracy within 3 feet. They offer the ability for using ArcView shape files to perform field work and site navigation. These units are in the vendor's upgrade path for existing GPS technology. Three units have been ordered. The money for the remainder of these units will have to come from lapsed salary money from the regional budget. There is a need for imagery among our customers. LandSAT and SPOT image scenes are currently available at nominal cost through USGS.

Topic 11. AutoCAD and SurvCADD Presentation by Bill Joseph.

Discussion: TIPS proposes to buy eight additional licenses for AutoCAD to increase the total number available to 25. AutoCAD is the engine for both SurvCADD and SedCAD, applications which run on top of an AutoCAD installation. Ninety eight percent of the mining industry is using SurvCADD. 90 percent of AML programs are using SurvCADD.

Topic 12. EarthVision Presentation by Al Wilhelm.

Discussion: EarthVision is expensive, costing \$140,000 per year. TIPS is in negotiations with the vendor about the cost. Perhaps TIPS can trade in some of the software modules to reduce costs. There is no need for 12 modules of digitizing. EarthVision usage is high within OSM at Pittsburgh and Denver for project driven uses. EarthVision usage by our customers is way down. Most of TIPS customers can not use the software because it is not on a Windows NT platform, and they can not get access to it. TIPS has been hoping for an NT version from the vendor for the last two years. The vendor has promised a Windows NT version by October, 2000. In negotiations with the vendor, TIPS is taking a strong position on the maintenance fees. TIPS is prepared to ask for a refund, depending on what happens. We can't continue to support the package if TIPS can not get it to its users. TIPS may get an extension on our contract period, or may cut the number of copies by 50 percent to reduce annual maintenance. It is the only product TIPS has which does full 3d modeling. TIPS will continue to evaluate its need for the product.

Topic 13. StratiFact Presentation by Paul Behum

Discussion: There are only 16 users now because the present version of StratiFact is a DOS product. The Windows NT version has problems. The TIPS maintenance agreement expired in January, but we don't have the Windows version. Some of the StratiFact functions are being split off into modules in the new version. TIPS will have to pay more for it in the future but don't know how much. StratiFact will work with KeyServer, the proposed license manager, but TIPS does not have permission from the vendor to use it with KeyServer. In terms of software alternatives, there are two possibilities: geographics xsection and geosystems logdraft. TIPS received an ultimatum delivered by the software vendor explaining our options. We can probably work out KeyServer issues. When the maintenance period was up, TIPS decided not to renew its contract because of problems with the software. TIPS does not need 43 copies, probably only need 5 to 10 copies if it is offered on KeyServer. Pennsylvania once had 12 copies, now they only have two. Functionality is a problem with screen resizing and adjustments. Pennsylvania decided to drop to two copies because the vendor promised fixes but could not deliver. The software is not user friendly, not intuitive. However, it does a lot of things with drill holes, such as drill hole correlation. USGS is using StratiFact heavily because they are using the TIPS pricing schedule arranged for them six years ago. EarthVision does not do well on drill hole correlation. TIPS has three options on StratiFact: 1. Discontinue

maintenance on all 43 copies presently held, 2. Maintain 10 copies (because the price to maintain only five copies is basically the same price. Graphics do not work well on NT, the version to be released in October will be more compatible.), and 3. Pay \$23,000 for all copies presently held and hope for the best.

Decision: After considerable discussion about options, the Steering Committee decided to approve option 2, maintaining 10 copies of StratiFact, with the condition that the vendor has to agree to allow it to be network licensed through KeyServer.

Topic 14. Presentation on Statgraphics by Bob Postle.

Discussion: Statgraphics works fine on KeyServer. Version 4 is to be delivered in the near future. TIPS currently owns 30 copies and it only costs \$100 apiece for upgrades. Statgraphics was selected because of its ease of use. Perhaps 16 states are using the software presently.

Topic 15. TIPS Core Software Review by Bill Clark.

Discussion: Mr. Clark presented the results of the Software User Survey in graphical form. The presentation was organized by functional areas such as hydrology, GIS, and engineering. Each functional area listed the software packages within that category and the current and projected number of users and concurrent licenses among TIPS customers. Mr. Clark asked the Steering Committee members to consider the proposed numbers and be prepared to make decisions about the recommendations at tomorrow's meeting.

Meeting adjourned at 5:00 p.m.

Wednesday, April 19, 2000

Meeting reconvened at 8:07 a.m.

Topic 15 (continued). Continuation of TIPS Core Software Review by Bill Clark.

Discussion: Mr. Clark briefly reviewed the day's agenda with the committee members and continued with his presentation on TIPS Core Software. The floor was then opened for discussion by the Steering Committee members. The costs of the proposed software, license management issues, user needs assessment, and implementation problems were the focus of the discussion. Questions were raised as to whether TIPS should buy 15 additional copies of ArcView or spend the money on ArcInfo. Most state programs already have their own copies of ArcView. It was suggested that TIPS could make KeyServer available to the states as a license manager to allow the states to install their stand-alone copies of ArcView on their own network for wider distribution to its staff. KeyServer only costs about \$45 per client, so this is much cheaper than buying additional copies of ArcView. ESRI, the vendor of ArcView, allows TIPS to install copies of ArcView for training classes only, so TIPS does not need additional copies of ArcView for training purposes. West Virginia feels that they can not buy ArcInfo at the very low price available to TIPS through the USGS contract, and will not be able to distribute ArcInfo to their user's desktops without TIPS help. They have already spent \$75,000 dollars on additional copies of ArcView and Spatial Analyst. Additional purchases of ArcView by TIPS is not as attractive to West Virginia as additional copies of ArcInfo. Other state programs are waiting on a decision from TIPS as to whether additional ArcView will be purchased. If TIPS does not buy more ArcView, the states will do it themselves. Some of the committee members expressed the view that they did not want to see ArcView orphaned by TIPS. Based on the ESRI presentation, it appears that the technology will take us to ArcInfo 8 anyway. A transition over time, possibly three years, from ArcView to ArcInfo is envisioned. Committee members were polled as to how TIPS should proceed with this purchase. Most members favored reducing the proposed number of copies of ArcView to be purchased and spending the difference on adding additional copies of ArcInfo. However, there did not appear to be a clear decision on this matter. The final decision about the number of copies of ArcView and ArcInfo will be determined by OSM. The proposed copies of ArcScan and ArcPress were reviewed by the committee. Mr. Wahlquist gave an explanation about lapsed salary money, currently estimated at \$78,000, as a possible source for the purchase of GPS data loggers. However, the Director gets first priority on the expenditure of the money, and WRCC would have to request to get the money back before it could be spent on GPS units. Questions were asked by the committee on the cost of a client license of KeyServer and the cost of a server license (to allow the states to serve up other software on its network). Mr. Clark then called for a show of hands if there was

disagreement of the entire buying proposal on the projection screen (software costs).

Decision: The Steering Committee decided not to purchase additional copies of ArcScan and put the money on additional purchases of ArcPress to make a total of 7 copies of ArcPress available through TIPS. There was no disagreement by the committee on the buying proposal, therefore the Steering Committee has approved the buying recommendations contained on the slide.

Topic 16. TIPS Training Presentation by Bob Welsh.

Discussion: Mr. Welsh reviewed the number of students trained by TIPS in the last few years and the number of TIPS course offerings. A question was asked about the training location of the SDPS class, which is taught in Pittsburgh. An individual recently retired from OSM wants to be brought back on contract to teach the class on site, but the number of training requests for the software from the survey do not support this request. A total of 35 TIPS training classes were scheduled for FY 2000. The number of available seats in the classes was based on survey results. Of the 435 student requests for training in ArcView, most are from the state programs. Student evaluations are closely reviewed for areas of improvement and problem resolution. The TIPS training catalog is now on line on the Internet to make it easier for students. New TIPS courses are proposed for course development. TIPS is trying to determine an appropriate level of training to provide to its customers for its available budget. TIPS increased its training expenditures on students by 300 percent over last year's. The Steering Committee felt this response was amazing. TIPS has concerns over course development. In hydrology, TIPS can not develop five new courses in one year. More instructors are needed. It is not just dollars that limit the number of students TIPS can train. Questions were raised as to whether more state personnel could serve as instructors in TIPS classes. The TIPS training base is being broadened because of cross-cutting technologies like GIS and GPS, which apply to many disciplines, making it appropriate to train more people than it has in the past. Some states, like Montana, have not been sending many people to training because they do not have the software available to them at their office. These states feel that TIPS must at least maintain or increase its level of training next year. In some states, personnel turnover is high. It is necessary for these programs to get new hires up and running in the new technology as soon as possible. Supervisors in these programs try to get their staff into as many TIPS classes as possible. As TIPS changes its courses, new demand is realized by users who want to have the latest available training. Once the TIPS desktop software is available on user's desktops, there will be additional demand. The committee believes that training is the most valuable service TIPS offers. TIPS

training is very cost effective to the state programs. In addition, TIPS training is more specific to mining issues than vendor supplied training. The second most valuable service TIPS provides is distribution of high end software. The two limiting factors for future training in FY 2001 is the number of available instructors and course development problems. Cross cutting software, such as GIS and GPS, are in the highest demand. TIPS will teach where the demand is. TIPS is considering establishment of a national teaching faculty. Faculty members will be required to pass strict standards to obtain teaching credentials and also hold certifications from software vendors documenting competency in their products.

Topic 17. National Technical Training Program Presentation by Sarah Donnelly.

Discussion: States have been asking for consistent procedures relative to OSM training. NTTP tries to cover title 4 and title 5 needs. There is a lot of regional training. NTTP also works with grants and AVS. There is a 50 percent turnover in some state programs. So, there exists a constant need for training as identified in the user survey. NTTP is careful not to teach TIPS materials in any of our classes. Only by drawing on collective resources can we offer everything to everybody. NTTP is trying to teach classes at various levels (for managers, non scientific staff, scientists, etc). NTTP may need to teach refresher courses for some personnel. Some regional courses on acid treatment design may be needed. The engineering classes were revamped. The bond handbook was updated, and the bonding class was redone. Classes are rescheduled depending on when they are updated. More advanced classes, such as evidence preparation and expert witness, have been produced. AML class students are strongly qualified because the resources are too precious to send the wrong people to the class. Ms. Donnelly reviewed current NTTP course offerings, program attendance, and instructors. OSM seems to have disproportionately fewer resources for training than other federal agencies, and we seem to send more people to training. OSM has probably one of the most effective training programs in the federal government. Recently, MSHA Academy asked NTTP to provide instructor training for all their staff. Kentucky is pleased to see the greater cooperation between NTTP and TIPS. For them, training is the best service OSM provides. NTTP is very gratified to get positive results on the follow-up evaluations sent out months after the training has been provided.

Topic 18. Group Discussion on Technology Transfer by Steering Committee Members.

Discussion: Mr. Clark requested a brief report from each Steering Committee member concerning technology transfer, starting in the East and working to the West.

Van Weaver: We don't do a lot of technology transfer. We lost a position, and we do it when we can (under other duties as assigned). We don't have anything as sophisticated as Denver. When the demand for hydrologists and engineers drops off, maybe we can contribute more. We participate with other federal agencies in a productive effort in Acid Drainage Technology and Information Team. We are getting down to how to improve AMD treatment and are writing an AMD remediation manual. As a result of the current EIS, we have participated in many symposia. This is not pure technology transfer, but it is an opportunity for industry and citizens to present anecdotal information. We participate in reforestation with HQ, Denver, and St. Louis. That is more tech oriented. We do tech transfer presentations for various states, Pennsylvania recently. We do a couple of those per year but can't do more right now. The National Energy Technology Center Mutual Agreement is in place, but haven't really used it yet. It is an open agreement where they would do work for us.

Bill Joseph: We have committed a lot of time to technology transfer, and we do a lot of it. We have a full time person assigned to do technology transfer, and that's Mick Ahrens. Kim Vories works a little on it, too, myself included. MCRCC has produced several forums: CCB's, prime farmland interactive forum, and the reforestation forum. All of these are collaborative efforts with state programs. The CCB forum held in Morgantown recently will be on CD. We have also hosted specific workshops such as AMD Passive Treatment. If interested, contact Sarah Donnelly or myself. This workshop is tailored to our region. New CD will be out next week. It is a collection of all forums, all workshops, all initiatives. It is in production right now. It is being produced in house. MCRCC has three different web pages: reforestation, coal combustion, and the main website. Book markers will be in packages advertizing these items. One of our recent initiatives is the bat forum which will be held November 14 - 16, 2000. This will be in digital format on CD, too. We have various flyers available. An Electronic Permitting forum was held last year, mostly for our region. I will be presenting a paper at the ASSMR on Electronic Permitting in June. We have fliers on reforestation, CCB (coal combustion byproducts), and bats. We create lot of internal products we pass out. We will add one on bats and another on AMD. You are invited to look at our websites for references. We have Pennsylvania and Texas handbooks available, all kinds of .PDF files, and connections to other websites. We do technical assistance, specific projects for watershed groups, also the Booneville project. We appreciate the state help. (Bill hands out packages to committee members containing flyers and other materials.) We are trying to reach out and do the best we can.

Paul Behum: I am working on a new project. I am doing a crossover in training to do tech transfer. I am working on cooperative projects and involved in earthVision training.

Linda Wagner: I was hired to do technology transfer in 1990. Our group was designed to do eight main functions. We have three staff. One of our main functions is to look at what we need to do to prevent reactions and damage. Bond release is still our main focus in the west. We have interactive tech forums. We do Electronic Permitting outreach, educational outreach, and participate in conferences. FY 2000 is a transitional year for us. We will have one workshop in TIPS training room this year. This year, Bob Postle and I served on the Billings Symposium. All of our states participated. Some states had multiple presentations at the symposium. The symposium had the biggest attendance ever. There was standing room only in some workshops. Altogether, there were seven workshops and two tours.

Joe Galetovic: On the Billings Symposium, abstracts are available and they will be on CD, too. These can be found on the MTSU webpage. Electronic Permitting started in 1989, was funded eventually, and we are now in 4th of a 5 year program. We have been very successful in using EP funds in western states. For example, we have used this for work on geologic core holes. The project involved digital scanning. A mining company participated by contributing a staff person who was very helpful in matching geologic records. We have purchased digital cameras in state programs for work on bond releases and AML sites. As for Electronic Permittings, probably the highest success has been seen in Colorado. Anything you want to know about Colorado electronic permits, ask John Riley.

John Riley: Our electronic permitting processing system includes all inspection and technical records. It automatically generates documents. It is a whole system.

Joe Galetovic (continuing): All states are actively involved in EP and are contributing their funds. With Brent's encouragement and support, we will be participating with universities such as Billings, Montana Tech, and the University of Wyoming. We were involved in the creation of the mine life cycle center to help mining industry. This is mainly hard rock mining, some coal. We are helping to meet research needs. The Army Corps of Engineers may be providing funds to provide training to other federal agencies in reclamation techniques. Our handbook for arid area reclamation is being used at several universities. We have been involved with RUSLE. The Forest Service is using it with great success. Last week, the EPA announced plans to publish on alkaline mine drainage and will be soliciting comments soon. Because of our involvement with New Mexico State University, six students were trained in digitizing and all six now have jobs in digitizing. So, OSM is supporting tribal operations. We have produced OSM mining posters, distributed western reclamation seed mix and instructions, have been involved with a mining institute, and helped with the

inspector's manual for hydrology and revegetation. Our most recent development was a visit to the University of Wyoming which has asked for our help in forming a new department and explore the possibilities. We are involved in the production of a handbook and the electronic publication of "Ashlines", a publication related to coal combustion byproducts.

Carl Campbell: Please come to see Kentucky Electronic Permitting. I want to thank these folks for their help.

Loretta Reichert (regarding WRCC-OTT program): I also am very excited. They are helping states. We would not have been able to do things this year without them.

Clark: Now we need to talk about a TIPS Technical Forum, the FY 2002 budget, databases, and obtain final comments from committee members during the next hour.

Topic 19. TIPS Technical Forum Presentation by Bill Clark.

Discussion: Mr. Clark proposed organization of a TIPS Technical Forum for Spring of 2001. It will be perhaps a two day forum somewhere in the country. However, there is no funding in the TIPS budget for travel for the forum. Topics for discussion would include an hour here or there on various issues: software and how it is being used (ArcInfo and earthVision, for example), how to transfer ideas by use of software, perhaps GIS workshops. The Steering Committee supports the idea but believes that the time schedule was too tight for development, and training on new software is more of a priority. The committee felt that somewhere in the first half of 2002 would be more appropriate as a time for the forum, and if TIPS wants to do it we need to start planning now.

Topic 20. Imaging Technology Discussion led by Bill Clark.

Discussion: Mr. Clark asked the committee whether TIPS should look closer at imagery and include additional funding for imagery in FY 2002. Other federal agencies have a significant presence in imaging technology. OSM does not. Imagery which could cost TIPS customers hundreds of thousands of dollars could be more economically purchased by TIPS and participating federal agencies and distributed to them under a group buy. Committee members

commented that Larry Evans reviewed 8 or 9 different types of imagery and that perhaps TIPS should ask the states what they want. TIPS should identify specific uses for the imagery, not just generally related to SMCRA issues. There needs to be some sense of what can be accomplished with specific types of imagery. Mr. Wahlquist reminded committee members that TIPS needs FY 2002 budget feedback within the next few weeks. TIPS will need to write up a description and assign a dollar amount to the project if it is to make an entry into the FY 2002 budget. The potential of the group buy proposal would be included in the write-up. There is also the possibility of developing a MOA with NASA. The Director of NASA has expressed an interest in working with other federal agencies and outside customers. NASA may be able to contribute technical expertise. SPOT images are available through the USGS. Mr. Clark asked Bob Welsh and Al Wilhelm to work with Larry Evans to develop a strategy.

Topic 21. Database Management Systems Discussion by Larry Evans.

Discussion: Mr. Evans explained that very few TIPS customers have a centralized, comprehensive database management system for its environmental data. Relational database management systems is a topic which the TIPS Steering Committee needs to discuss in the future. In West Virginia, the state is in discussions with a vendor to buy EQuIS, a Visual Basic application, which will allow the state to make connections between Access and Oracle. This application works well with TIPS software, is seamless, and only costs about \$5,000 per seat. Mr. Clark suggested TIPS put this topic on its list of R & D projects and look at it again next year. In the meantime, he requested Greg Morlock to further discuss a strategy with Larry Evans.

Final Comments from TIPS Steering Committee Members.

Discussion: Mr. Wahlquist requested closing comments from each committee member.

Billy Chovanec: I think the main thing is that TIPS has been phenomenally responsive this year, particularly in GPS and training. This imaging thing may be just an idea that takes off like GPS, too. Thank you all. I represent two other states. I think they will agree with me that the "2 for" approach (used in making evaluations and recommending software purchases by TIPS) is helpful. We don't need a cannon to shoot a dog. During our technical reviews, we just need to know if we are in the ballpark sometimes (referring to hydrology software). We still need training. Mississippi had two people trained in earthVision. One has not

used it, and the other has left. Simplicity and ease of use of the software is important.

Larry Evans: I want to echo the tremendous response on training by TIPS. I think it makes more sense for TIPS to focus on training. That is a positive move. I approve of the direction. I believe over time, certain software applications will become more widespread and institutionalized in their use. Three years ago, we were dabblers in software. Next year, we may have 125 users. The core application will be ArcView. If a technical reviewer can't use it, he can't do the review. Our need for training will increase. I recommend at least a flat line or an increase in that area. It is important to use imaging. There is a definable role for TIPS in imaging. Other agencies are using it. In database training, this is important.

Rick Koehler: I want to thank the TIPS folks. When comparing the responsiveness of software vendors to TIPS personnel, TIPS is better. I have nothing more for summation.

Loretta Reichert: I am excited about this. At our last meeting, we just charged ahead. It is amazing to me that TIPS has managed these accomplishments. I am amazed by all the review on the software.

Greg Melton. If I hear anything at all, it is for training from my states. Oklahoma and Alabama programs express appreciation for being brought on board. Small states do not have the means to provide for themselves. Until recently, the only computing power Arkansas had was its TIPS workstation. This is true for Alabama as well. I thought the meeting was well facilitated, thanks to Billie Clark. TIPS is the jewel in OSM's crown.

Mike Dimatteo: I thought the TIPS team was more focused and more organized this year. The handouts make it easier to go back and tell folks back home what happened. The Service Manager concept is a good idea. The Appalachian Region should take note of this. We think training is very important. The states are looking forward to the Windows NT desktop.

Carl Campbell: I hope to attend the NTTTP Steering Committee meeting next month. I will put in a good word for the TIPS program. I was really interested in Larry Evan's talk on imaging. Kentucky may have a possible use of imaging on steep slope areas and on AMD. We probably will encounter more problems in the future in this area. I like the database management idea. I am really glad to see the improvement in the TIPS program.

Ken Wyatt: Training continues to be a big need in Utah. We have not had a lot of turnover in the last few years. Some states need to realize we have to use trained people to teach less trained people. If you don't use the training at home, you lose it. On site training is good. Utah is moving to desktop applications. We

have a couple of licenses of ArcView and AutoCAD. We appreciate the efforts of Sarah's group and also Joe and Linda. We have spent \$50,000 over the last several years to get 20 years of water quality data entered into our database. We will be moving our database from a sister agency's server to an in-house Windows NT server. I went to ArcView training in Alton recently. It was good to see that students know Windows, and the instructors do not have to teach Windows and computers. Instead, they can focus on teaching their subject.

Jerry Wilkinson: Training, training, training. Thank you. I appreciate the TIPS people. My compliments on the meeting. It was highly organized. Easier to summarize. A lot of work went into it. I appreciate the very visible cooperation between Sarah's group and TIPS. From the state's perspective, you are just OSM. So, the more seamless you appear, the better. The needs survey is very apparent, very appreciated.

John Riley: I offer the same thoughts. I am thankful for training being moved to the Windows NT platform. Our users are looking forward to it and are encouraged with it. TIPS training and Electronic Permitting is looking more like one unit to help out in our training needs. It is very useful to see what we can use to augment our program.

Buck Miller: This is a new experience for me being on the committee. I appreciate being on the committee. I agree that training is the number one priority, and the second priority is high end software. Imagery and database management are ways we can take advantage of an economy of scale. Even though we are an OSM office, we are more like a small state program, and it is tough to get a few dollars. We are always looking for ways to take advantage of what is offered.

Brent Wahlquist: Thanks to everyone. Please have a safe trip home.

Meeting adjourned at 11:51 a.m.