National Wildfire Coordinating Group
Fire Environment Working Team

Meeting Notes
Portland, Oregon
November 15 - 17, 2005

Day One:
Tuesday, November 15

Basics – discussion led by Chair, Paul Schlobohm

Welcome and Introduction:

Paul welcomed Rich McCrea, representing BIA for Dennis Dupuis. Attendees: Paul Schlobohm, Erin Albiston, Wayne Mitchell, Shari Shetler, Joe Kennedy, Neal Hitchcock, Wayne Cook (call-in), Larry Bradshaw, and Tom Wordell

Logistics:

Break-out rooms: 203, 204
Contact: Wendy Reeder, Sixth Floor, HR

Expectations for the Meeting:

Chair's expectation – wrap-up strategic planning session today. Prioritize budgets to make strategic plan happen and work on out-year budget allocations. Team will need to revisit the strategic plan each year (in fall session) in order to develop annual budget proposals. Rearranged agenda to fit needs of the group.

Action Item Tracker Update:

No. 2 (Evaluation of ROMAN and other similar systems). Recommend where to invest and what to cut - final report) – Assessment of current system similarity to be provided by Dick Bahr; task with respect to reporting to NWCG is completed; on-going effort to determine user needs/requirements will be a new task (#54).

No. 3 (Request FUWT to examine scope boundaries with fire effects) – Paul had discussion with FUWT: general understanding of situation and suggestions offered, but more collaboration is necessary. **Add to Feb. meeting agenda**.

No. 10 (Present FENWT Charter final to NWCG) – Not complete

No. 11 (Recommend fire weather system programs and/or activities to sunset - report to NWCG) – Complete. Paul reported to NWCG in October. Long-term resolution to this question has been linked to User Assessment (see No. 2).

No. 13 (Invite Strategic Partners (JFSP, Social Science WG, Lessons Learned Center, Western Governors' Assn, UCAR, LANDFIRE) – Ongoing; discussion about how to address specific task (kind of laundry list): may need to sunset and be more specific actions in mind. Suggestion that strategic plan may help to develop action plans as related to this action item. Designated "Complete"

No. 16 (Committee Charters to FENWT Chair) – Charters were completed by FDC & FBC by June session. FWC working toward completing task.

No. 24 (Continue discussions with Strategic Partners, to include new suggestions ie. Program Mgmt. Office, Tribal Rep., Core Fire Science Caucus, Permian Basin) – Ongoing

No. 27 (Letter to TWT to address issues with 492/493) – to be addressed in this meeting

No. 28 (Proposing a training curriculum for 492/493/FLAMMAP) –presentation discussion below

No.29 (Send paragraph/brief description to Paul regarding Users' Evaluation Team in order to forward information to FENWT) – not completed

No. 35 (Recommend command and control at local level be exercised or relinquished to regional level) – to be addressed in this meeting

No. 37 (Develop goal sheets, including objectives, critical success factors, barriers, and strategies) – Completed November session

Report on 490+ meeting (No.28):

See Attachment 1: not for public dissemination in current version

Paul Schlobohm, Wayne Cook, and Dick Bahr, as steering committee chairs for the S491, S492, and S493 courses respectively, met to consider strategies for future course curriculum development. This somewhat narrowly focused topic grew into a discussion of core elements that are relevant to today's discussion of our strategic plan. Wayne, Dick and Paul identified five key types of data that influence "fire environment" tools: fire occurrence, fuels, weather, topography, and resources and examples of current sources of these data were presented. The need for quality data and a source of record were discussed. Outcomes from tools we use were identified, such as fire spread and fire danger ratings. These outcomes were matched with each of the five data types needed to produce them. Examples of the applications that exist today that deliver these outcomes were identified. A 5-year timeline was initiated to visualize the impact through time of revised existing applications and new developments that will impact training development. FENWT addressed several concerns: the chart describing the key data types requires more information before dissemination outside the group…current version of road map is not inclusive enough…may be viewed as limiting. Suggestion: "requirements" block feeds the data blocks. Suggestion: include two descriptors, etc or leave without descriptors (bucket concept). The concepts presented here were relevant to and further discussed during other parts of the meeting.

FENWT Strategic Plan – discussion led by Facilitator, Shari Shetler

Strategic Plan Elements – Part I

Complete Goals:

Group successfully completed defining goals. A reduction in total number of Goals with the inclusion of communication, leadership and coordination in the Guiding Principles was agreed upon. Guiding Principles defined:

Strategic Plan Elements – Part II

Complete Objectives, Critical Success Factors, Barriers and Strategies:

With Shari's guidance and explanation, the group recognized that overlap is inevitable when creating these pieces of a strategic plan. Overlap will become truly evident in the Action Plans. Group decided to finish these elements for each goal before moving on to Action Plans for each Goal. Homework for the group was to prioritize the strategies before moving on to Action Plans. From this individual input, Shari created a document to help prioritize the strategies (continued Wednesday afternoon).

Day Two:
Wednesday, November 16

User Needs Assessment: Information Gathering

NWCG Parent Group has requested that FENWT produce a draft study plan of a User Needs Assessment. The due date for the plan presentation has been set for the January 2006 NWCG meeting. The completion date is currently set for October 2006.

Review NPSG User Needs Assessment – Tom Wordell

National Predictive Services Group, officially formed in 2002, developed a framework that determined vision, mission, and goals. The group has not yet taken the framework to the final step of action items related to the strategic plan. One of the goals developed was to create a User Needs Assessment. NPSG decided to seek outside help in the form of a contractor to identify key constituents, key decisions and types of information needed to support them, and use surveys to gather information. Used a process of social science to administer and interpret the survey. The original survey was a Microsoft Word document. Circulated information gathered within the NPSG committee. Survey was converted to web format for circulation to a broader group of constituents. Multiple tests and refinements were administered. Revised version was sent out to "real" respondents. The sample construction is complete. Sample came from information provided by Tom Wordell to the survey coordinators as well as coordinators' request for specific groups (i.e. Information Officers). List of respondents includes approximately 4,200 names. Expectation for response is 75%. Agencies represented include BIA, BLM, FWS, NOAA, NPS, USFS, some state agencies. Sample frames for analysis include geographic, position type and agency affiliation. Target date for release is January 15, 2006 and will be open for six weeks. NPSG is using the BLM "avenue" to get OMB approval (approval required under law). Fiscal year 2005 commitment by NPSG is $31K and FY 2006 is $38K. Final NPSG report expected by end of June 2006. (see Attachment 2).

Tom explained the differences between the NPSG survey and the NWS survey, including objectives and timing. The NWS survey, which has been coordinated with the timing of the NPSG survey, went live this day at: www.cfigroup.net/NWSFireWeatherSurvey2005. Final report for NWS survey anticipated to be completed in early February.

Recommendations on User Assessment – Wade Smith, MitreTek Systems

"Assessing Needs for Wildland Fire Weather Information"(see Attachment 3). The presentation based on a small survey conducted with the RAWS network and MitreTek Systems (MTS) that turned up quite a bit of information. Survey reaffirmed the mission requirements that wildland fire managers have for weather information. Presentation intended to discover approach to identifying requirements. Several questions are necessary to reaffirm the mission requirements for wildland fire management. The RAWS network is not a requirement but a solution to meet the requirements. Many solutions are apparent for the different questions presented by the requirements. Identifying the requirements (needs assessment) include: work with each scale of decision-making, identify time situation of interest for each scale, and consider different management situations. How the questions are asked determines the requirements. Emphasized that knowing what is needed is not necessarily inherent by asking "what kind of weather station do you need?" Requirements are static while solutions to the requirements are fluid and dynamic. Technologies influence the solutions to the unchanging requirements.

Wade opened the floor for general discussion about a needs assessment to be completed by FENWT. Discussion began related to RAWS and its role in the future.

Review Office of the Federal Coordinator for Meteorology User Assessment – Mary M. Cairns, OFCM (call-in)

"OFCM and its Role in the National Wildland Fire Weather Needs Assessment" (see Attachment 4). Mary began presentation with background information about her, OFCM and provided a list of current interagency collaborations. Several examples are available both in the handout and online in regards to current interagency collaborations. Presentation specific to wildland fire user needs included a discussion of the problem to be addressed by their assessment. OFCM is conducting the assessment at the request of the National Weather Service as an action whose goals/desired outcomes were called for by the Western Governors' Association in their fire weather resolution of June 2005. The assessment is not focusing on one particular functional area but is broadened to include multiple functional areas of interest including data collection, modeling, prediction, products/services, training, information dissemination, user response, R&D, resource considerations, partnering and socioeconomic impacts. The interim assessment is expected to be completed by fall 2006 (August) and the final report is anticipated to be completed by the spring of 2007 (April).

Mary is open to accepting input from members of FENWT regarding missing pieces. Please submit those questions or examples to Mary for consideration (please keep Paul in the loop). Mary recognizes a more complete list is necessary in order for group to understand the assessment as it progresses. OFCM website: http://www.ofcm.gov

ACTION ITEM: FENWT: Provide list to Mary Cairns regarding JAG members

ACTION ITEM: FENWT: Provide feedback regarding additions to the OFCM proposal/plan to Mary Cairns.

User Needs Assessment: Plan Development – FENWT discussion

Discussion about the user needs assessment was lengthy and formulation of a plan seemed abstract and fairly unattainable to the group. The group, working to discover objectives, gathered a laundry list of items. From that list the general ideas of defining requirements and providing solutions seemed to be emphasized by the group. Defining stakeholders was brought up as an important part of completing the task. As related to the idea of stakeholders, the group discussed grouping stakeholders into decision cadres. General scope was discussed. Idea of leveraging other activities was important to overall idea. In order to advance discussion beyond the nuts and bolts of individual ideas, Shari suggested using other user assessment plans as a template for creating our own document. Discussion postponed until next day and other studies can be located to reference.

FENWT Strategic Plan continued – discussion led by Facilitator, Shari Shetler

Strategic Plan Elements – Part III

Complete Action Plans:

Shari presented consolidated prioritized strategies to the group based on homework from yesterday's discussion. Group broke into three teams to work on action plans that relate to the top seven strategies. Remainder of the day was spent on creating multiple action items for each strategy. Shari collected information from each small team to consolidate it for tomorrow's work on this item.

Day Three
Thursday, November 17, 2005

Committees & Groups

Fire Danger – Larry Bradshaw

Update on Implementation of solar radiation sensor to replace State of the Weather for intermediate calculation of dead fuel moisture in the National Fire Danger Rating System:

- Brief history of dead fuel moisture: Initial studies for 1-hr, 10-hr, and 100-hr fuels were conducted from the 1930s to 1950s. In 1978 the 1000-hr fuel moisture was added. All dead fuel moistures were based on a once-daily fire weather observation. In the 1980s, the electronic fuel sticks appeared but there was no standard. In 1992, a study was done on woody sticks versus electronic with no conclusions other than there was too much variability. In 1994, NAGFDR recommended only weighed sticks be used for historical databases. In the mid 1990s, there was an effort to automate "state of the weather" (SOW) based on temperatures but it did not work well. In 2000, Nelson published "Prediction of diurnal change in 10-hr fuel stick moisture content." In 2001, Nelson worked with Collin Bevins to extend to 1-hr, 100-hr and 1000-hr moistures to meet

NFDRS and FBPS needs. In 2002, a model was "load tested". In 2002, WIMS moved to a web based system. From 2002-2005, a joint study was initiated with Oklahoma State on dead fuel moistures. The SOW was based on hourly data plus solar radiation. Phase 2: forecasts from solar radiation from NWS gridded forecast model and compared to "observed" from OK Mesonet.

- Implementation for dead fuel moisture. INGEST takes ASCADS weather observations and populates WIMS observations with "R" type records. Solar radiation column will be added. The NELSON model kicks in then and it reads "R" type record and inserts fuel moisture values as an "N" value. Could update SOW. NFDRCALC reads WIMS observation "R" type records from WIMS. NFDR "N" records with and updates WIMS. NFDR "N" records updates ERC, BI and other indices. Approximately 100 observations every 5 minutes. The "N"s replace the "O"s. Consistency and continuity are very important and that is what the model provides. In WIMS, we will be continuing to enter the SOW during the test period which will run through April 2006 so the system will display values for measured solar radiation, observed SOW, and their respective outputs.

- Communication Plan; there will be some prototype pages on the web through the RAWS page www.fs.fed.us/raws. Web page will also have access to OK Mesonet data a publication, implementation strategy, prototype displays and timelines (Dec 05 to Jan/Feb 06). WIMS will also show a pop up. Work is ongoing and WIMS is preparing to get the job done.
- Need to lay out an implementation plan. Put this out on a website. FENWT will develop this. Do under the banner of FENWT. The Fire Danger Committee will write up a transition plan. Issues are training and logistics and hardware.

ACTION ITEM: Implementation plan write-up from FDC regarding solar radiation to NWCG through FENWT

- Transition issues. To fully automate also need live fuel moisture model. Currently based on 1000 fm and x1000. NDVI has not proven particularly useful.
- In the past, calculated values have not been archived. Is it time to save the fuel moisture and index values for some number of hours/days?
- The next version of Fire Family Plus will have the Nelson model. This might be part of the transition plan.
- The 88 fuel moisture model is finally being fixed.
- 10 hour forecast issue from California is fixed
- Data scrub. California station numbers, some negative precipitation amounts, pre-1975 wet bulb issue, fixes are underway.
- We probably should not be using pre-1975 data because the observation data was 4 hours different. The wet bulb issue needs to be addressed
- FENWT needs to address weather data cleanup and storage. What is the field doing? What is FPA doing? Is there a need for a standard? **February meeting agenda item**.

RAWS Partners Presentation – Kolleen Shelly

- RAWS Partners were formed at NIFC in 2003 to address change in the RAWS program.
- A draft charter is in place. It is modeled from the FENWT charter and currently written for the NIFC Governing Board Charter
- Many issues dealt with are in response to the Governing Board
- This may not be the place for RAWS Partners to be but that's where it is now.
- Membership is RAWS leads for FS, BLM, BIA, NPS, and FWS. NWS may join. Predictive Services may want to join
- Other strategic partners are vendors and the BLM RAWS shop
- Focus of the group is maintenance support of the RAWS system
- Make strategic recommendations
- Maintenance contract cost and budget analysis
- Develop and implement training
- Agreement with BLM by each agency for
- Explore standardized contracts with vendors
- Mobilizations standards are being looked at. How do we send out Fire RAWS and Project RAWS and qualifications for RAWS technicians?
- STIWG group. We have representatives on this group.
- RAWS Partners will work with groups
- Web site is managed by the group and it is interagency
- NFDRS Weather Standards are maintained by the group
- Consistent policy and effective and efficient delivery of services
- Are contractors doing the job? We have no way to measure this. There may be a need for an independent auditor to oversee this. Perhaps when we do the outreach in the FENWT user agency.
- What is the relationship of FENWT to RAWS Partners? Strategic partner.

Predictive Services and the Interagency RAWS Program – Tom Wordell

- Predictive Services has recognized that there are issues with RAWS weather data integrity.
- Unclear as to what the role is with the RAWS program
- Predictive Services wants to have a role in this and be engaged
- SW GA Predictive Services spends half an FTE doing maintenance and monitoring.
- Missing weather data is a huge deal and the transition to automation of SOW is critical.
- Data quality is essential
- Need to identify the role for RAWS of Predictive Services and possibly have a RAWS coordinator.
- NFDRS Station Standards should outline how the Predictive Services works with the RAWS program.
- METS are looking at data quality and some are doing RAWS maintenance. There are basically two functions.
- METS feel this is not a collateral duty and a new position is needed. They feel it may erode their ability to do predictive services work.

- METS are suggesting that the guidelines from stations standards be part of management plans.
- Need super-user access for ASCADS and WIMS so METS can do their job.
- METS want to be involved with assurance that metadata is good.
- There is a need for interagency management of RAWS programs.
- Do we need an interagency RAWS coordinator at the GA level? Each GA is different so how do we implement this? How do we interact with those GACCs that want local control? Perhaps we ask the Units what they want. Does NWCG pick this up and does Predictive Services fall under NAFAB. This may happen.
- Predictive Services is going to develop a handbook with standards to be applied and implemented locally. They will get GACC buy in with minimum standards.
- Perhaps we structure part of the OFCM study to address some of these issues? We need to focus on data quality and solutions.

Summary: We need to hold our Agencies to standards in the weather station handbook. The OFCM study will help to define the issues and FENWT needs to influence this. NFAEB is looking for a draft handbook by the spring of 2006. The survey will not be back from OFCM. Do we draft a position paper from FENWT to NFAEB?

ACTION ITEM: Tom Wordell will prepare issue paper on the role of the Predictive Services GACC METS with respect to RAWS for FENWT to present to NFAEB.

RMC Fire-Weather Forecast Verification – Tom Wordell

- FCAMMS web site. They were asked to do verification
- There are 3 links; forecast maps, point forecast, and
- Point Forecast verification
- You can select a single station or groupings
- This is the first time this has been done.
- www.fireweather.com
- Forecast fields; dew point, wind speed, and air temperature
- Scale; point landscape
- Employed statistics; 30 day mean bias, 30 day mean absolute error and R-squared goodness of fit index
- This verification was done for 22 stations
- More stations will be added
- Most of the differences are small.
- The system will recommend to the user the best approach
- RMC and NWS forecasts show very close agreement with temporal patterns of observed data and no regional variations over a 30-day time period.
- This is a research and development project. The FCAMMS are regionally based but there may be problems for consistent national application.

ACTION ITEM: Need to include more discussions on FCAMMS at the next meeting of FENWT

Team Business

Logos – Larry Bradshaw

- FENWT needs a logo
- New logos were presented for the committees for FENWT, Fire Weather Committee, Fire Danger Committee, and the Fire Behavior Committee.
- Use is for letterheads
- Logos were accepted with some minor adjustments.

ACTION ITEM: Wayne Cook will make changes and provide final version to the team.

Joint Fire Science (JFSP) Conference – Wayne Mitchell

- Publications were given out to committee leads
- Communications with research. Need to invite JFSP to the next FENWT Meeting
- JFSP is looking for help in peer review of research proposals.
- Association for Fire Ecology is meeting on Nov 13-17, 2006 in San Diego.
- A list of principal investigators was passed out.
- There is a need to meet with the Interagency Fuels Group and sort out our roles.
- Connection between operations and research. Researchers want/need to get out on fires. Many do not understand how fire operations work but are interested.
- Most of the researchers were from universities not agencies at this meeting. Many are out of the loop on how this fire business works. There is a real opportunity/need to work with these folks.

ACTION ITEM: Paul will connect with JFSP Governing Board to invite a representative to the next FENWT meeting.

Committees & Groups

Fire Behavior – Wayne Cook

Question was brought up about how to address issues presented to FENWT for a decision. Should information come through the committees then to FENWT or vice versa? Shari reminded group that this type of information is available in the Operating Principles. Action items were created from this discussion. Process should be addressed by the completion of the action items.

ACTION ITEM: Erin: Change agenda format to describe agenda items as "informational" or "decision" topic.

ACTION ITEM: Paul and Erin: Work on decision processes within the Operating Principles to present to group on next conference call or next meeting.

Wayne requested that FENWT make a decision about endorsing or not a fire behavior fuel model. Referenced "A New Set of Standard Fire Behavior Fuel Models", (see Attachment 5) to update group on the basis of the request. After lengthy discussion, group consensus was to endorse the fuel models.

ACTION ITEM: Wayne C.: Work up endorsement and implementation plan for new 40 fuel models to present to NWCG through FENWT.

Discussion initiated about "Request to endorse development of a Fireline Weather Observations Module for the Annual Fireline Safety Refresher" memorandum (see Attachment 6). Group consensus was to endorse. Wayne will draft necessary documentation and move forward using FENWT letterhead upon review by the Chair. Draft will be made available to members.

ACTION ITEM: Wayne C.: Draft endorsement documents for weather refresher module with FENWT letterhead; carry forward on behalf of FENWT.

Real-time monitoring discussion brought to FENWT. Requests that no current decision needs to be made but suggested that item may be sanctioned by FENWT. Pete suggested that FENWT may field items but not sanction such types of work. Wayne C. will get with Pete to further this discussion outside of FENWT arena.

FENWT Training issues topic introduced. FBC Action Item #173: Memo to FENWT requesting S490 to be moved from under TWT to FENWT for curriculum development and maintenance. Discussion resulted in an action item to re-tool the proposal.

ACTION ITEM: Wayne C.: Rewrite S-490 proposal rewritten to emphasize efficiency gained.

ACTION ITEM: FENWT: Explore current and future training issues and need of the respective FENWT committees/groups

Discussion introduced about 2007 Fire Behavior and Fuels Conference. How much does FENWT want to be involved in the 2007 conference? Paul suggested that our involvement is crucial to upholding our guiding principles as a leadership group. General group concern was around funds available to commit to such an adventure. Timeframe for making decision is soon (marketing next conference this year already). Defer discussion to next conference call. FENWT needs more information about funds, scope and scale in order to make a decision.

ACTION ITEM: Wayne C.: Provide more information to FENWT by next conference call.

Predictive Services Group Safety Letter – Tom Wordell

Presented letter to FENWT for information purposes. Suggested to have the information fielded to FDC and FBC. Safety & Health Working Team is meeting in January. Committees should look at the letter provided by Tom and prepare to discuss at January conference call. (see Attachment 7)

ACTION ITEM: Committees discuss letter presented by Tom within their groups. Discuss at January conference call.

Team Business

OFCM, Joint Action Group

Final discussion about involvement on the OFCM, Joint Action Group (JAG). After some discussion, Paul suggested it would be necessary to explore the options before making any kind of commitment.

ACTION ITEM: Paul will contact Mary Cairns; Pete will contact ICMSSR DOI and USDA contacts as soon as possible.

Strategic Planning – Action Plans continued

Group has deferred completing this item over the next few weeks and will discuss on the January 4, 2006, conference call. Sub-groups will work on tasks created by their groups. Assign dollar amount, task relation (dependence), resources, skills needed, potential external sources, and duration.

Strategy: Identify and prioritize existing and emerging technologies

Action 1: Organize technologies (hardware and software) by fuels, weather, and topography. Weather includes smoke emissions and dispersion.

Task 1: Identify current and emerging fuel description systems/technologies

Who: Dennis, Dick, Larry
Potential external source: PMO
Dependence: current side not dependent; emerging may be dependent upon requirements
Duration: current – 2006; emerging – 2007-09
Budget: none

Task 2: Identify current and emerging weather observation & modeling systems/technologies

Who: Dick, Larry, Leroy

Potential external source: PMO
Dependence: current side not dependent; emerging may be dependent upon requirements
Duration: current – 2006; emerging – 2007-09
Budget: none

Task 3: Identify current and emerging topographic (geospatial) data technologies

Who: Paul
Potential external source: Sue Goodman, Katie Madrid, PMO, LANDFIRE
Dependence: current side not dependent; emerging may be dependent upon requirements
Duration: current – 2006; emerging – 2007-09
Budget: none

Action 2: Define and create a Technology Assessment Matrix. Matrix rows are technologies defined in Action 1. Matrix columns are assessment parameters such as scope (spatial & temporal), linkages to current/emerging tools, impact of implementation of new technology, cost/benefit assessment, accuracy, linkage/integrity to science-based/peer-reviewed R&D strategy.

Who: Larry, Wayne C., Dick
Potential external source: PMO, NWS
Dependence: none
Duration: early 2006
Budget: none

Strategy: Utilize an iterative process to user needs, evaluate products, and monitor feedback

Action 1: Develop and provide input to user assessments to best articulate fire environmental business requirements.
Task 1: Have a presence on the Joint Action Group for the Wildland Fire Weather Needs Assessment (OFCM) Jan. 06

Who: FENWT - JAG representative(s)
Potential external source: OFCM
Dependence: none
Duration: Winter 2006-Spring 2007
Budget: possible state travel funded ($9K)

Task 2: Coordinate with NPSG, NWS, BlueSkyRains West user surveys

Who: FENWT Chair and members (coordinate with Leroy, Tom, Pete)
Potential external source: Heath Hockenberry (NWS), Jim Douglas (BSRW)
Dependence: none (feeds own user assessment)
Duration: Fall 2006 – Spring 2007
Budget: none

Action 2: Use results in the framework of the Technology Assessment Matrix to evaluated products and assess how current implementations meet user needs.

Who: FENWT
Potential external source: none
Dependence: Strategy 1, Action 2
Duration: ongoing
Budget: none

Action 3: Recommend to NWCG the desired Fire Weather system architecture.

Who: FENWT
Potential external source: Enterprise Architecture, RAWS Partners, NWS, R&D
Dependence: many actions and tasks above
Duration: 2008
Budget: may need to procure skills to write up SOW, requirements ($50K)

Action 4: Repeat Actions 2 and 3 at 5-year intervals with additional input from user feedback and new technology monitoring processes.

Who: FENWT
Potential external source: same as above
Dependence:
Duration: ongoing
Budget:

ACTION ITEM: Subgroups 1, 2 and 3 complete the development of their action plans as shown above prior to FENWT conference call January 4, 2006.

<u>After Action Review – All</u>

Pete offered suggestion about managing invited guests and several agreed. Paul suggested that members bring issues or tasks before the team that can be reviewed, assessed, revised, etc. and avoid bringing items before the team that need to be created by the group.

Meeting Adjourned.