Hydrologic & Environmental Systems Modeling Department
South Florida Water Management District
Statement of Work (SOW)

for

Peer Review of the Everglades Landscape Model (Peer Review Panel Member)

Project Manager:	Carl Fitz
Requesting Office:	Hydrologic and Environmental Systems Modeling (HESM) Department, SAP Business Area 3210
Project Name:	Peer Review Panel Member for the Peer Review of the Everglades Landscape Model (ELM)
Date:	3 July 2006 *(urls updated July 8)*
Vendor:	_____
Cost:	_____
Service provided:	Membership on a Peer Review Panel to provide unbiased, expert assessment of the Everglades Landscape Model

Membership on the Peer Review Panel for the Everglades Landscape Model

1.0 Introduction

The Everglades Landscape Model (ELM) is a regional-scale, integrated ecological assessment tool designed to understand and predict the landscape response to different water management scenarios in south Florida, USA. In simulating changes to habitat distributions, the ELM dynamically integrates hydrology, water quality, soils, periphyton, and vegetation in the Everglades region.

***Model Goals**: Develop a simulation modeling tool for integrated ecological assessment of water management scenarios for Everglades restoration*

- Integrate hydrology, biology, and nutrient cycling in spatially explicit, dynamic simulations
- Synthesize these interacting hydro-ecological processes at scales appropriate for regional assessments
- **Understand and predict the relative responses of the landscape to different water and nutrient management scenarios**
- Provide a conceptual and quantitative framework for collaborative field research and other modeling efforts

The model has been used as a research tool to better understand the dynamics of the Everglades, enabling hypothesis formulation and testing. This is a critical, ongoing use of the model. However, one of the primary goals of this simulation project is to evaluate the relative response of the landscape to alternative management scenarios. Specific objectives for such model applications are contained in the model Performance Measures, which are defined in the Introduction of the ELM documentation[1]. The two Performance Measures of the current regional model version involve the long term water quality dynamics of ecosystems distributed throughout the Everglades. The Performance Measures are used to make relative comparisons of management alternatives with respect to:

1) total phosphorus concentration gradients in marsh surface water; and

2) total phosphorus accumulation gradients in the marsh ecosystems.

Throughout several decades in a regional (10,000 km^2) spatial domain, these Performance Measure trends are evaluated at an annual temporal resolution along multiple-kilometer gradients.

While the goals of this model are targeted towards a broader understanding of ecosystems in a heterogeneous landscape, phosphorus is a critical driver of the habitat distribution across the landscape. Modeling phosphorus water quality is considered an urgent need for two restoration programs in the Everglades. Thus, this interim version of the ELM

[1] Full documentation of ELM is at http://my.sfwmd.gov/elm

has been released in order to aid in planning for those projects. An independent peer review of this interim model release will provide guidance to project managers who need the best available science to guide their plans.

For the state of Florida's Long Term Plan for Achieving Water Quality Goals, the primary application of ELM involves better understanding the long term recovery of nutrient-impacted regions of the Everglades. In parallel with field research into the mechanisms of such recovery, the ELM is being refined as scientific advances are made. Water quality modeling is an important component of that larger ecological modeling effort.

To determine if the ELM could be used in the evaluation of Comprehensive Everglades Restoration Plan (CERP[2]) projects, the CERP REstoration COordination and VERification (RECOVER) Model Refinement Team initiated an interagency review process in August of 2002. They concluded in 2003 that an independent review was necessary prior to applying the ELM to decision-making for CERP projects. Since that time, the ELM and its documentation have been refined in response to comments received from various CERP interagency and South Florida Water Management District reviewers.

1.1 Definitions

Consultant(s): The term Consultant(s) will be used to refer to any individual or group of individuals that are employed under this purchase order and all Sub-contractors working on various related deliverables.

Project Manager: Unless otherwise specified in this statement of work, Project Manager refers to the SFWMD Project Manager. The Project Manager will be the primary point of contact with consultant and will assist in identifying appropriate technical points of contact. Final acceptance of work order deliverables will be provided only by the Project Manager.

2.0 GOALS & OBJECTIVES

The overall Goal of this review is to provide unbiased, expert assessment of whether the science behind this model can be used to support decisions in Everglades management.

***Review Goals**: Judge the quality and credibility of the science of the ELM, particularly in its applicability to decision-making for Everglades management.*

1. Find critical defects, if any, in the model relative to the goal of understanding and predicting relative landscape responses to alternative management scenarios.
2. Suggest remedies for such defects, and/or suggest the appropriate caveats to be understood by those who must interpret the model results for decision support.

[2] CERP projects and teams are described at http://www.evergladesplan.org/

3. Recommend avenues for future model refinement.

The Review Panel is not expected to review other methods (including models) used in Everglades decision support. However, because the Panel's expertise includes knowledge of such methods in general, Panel recommendations should be made within the context of the relative uncertainties associated with available scientific methods.

3.0 SCOPE OF WORK

3.1 Overview

This review has been organized in accordance with typical scientific review practices, experience gained from independent peer review of the South Florida Water Management Model[3] and the Regional Simulation Model[4], and the experience gained in the prior interagency review of the ELM[5]. 'Independence' in the context of this review process means that Review Panelists should have no substantial personal or professional relationship with the South Florida Water Management District or any other organization involved in environmental management in South Florida. Therefore, the Panel can be reasonably assumed to be objective in evaluating the ELM. Such objectivity is the cornerstone of any true peer review process.

Panel review, as opposed to review by individual experts, is done by a group that reviews the model and model documentation independently, and then interacts with each other and the Model Developers at publicly-noticed meetings. The Panel collaborates in authoring recommendations in a Final Report.

3.2 Model Application Niche

It is critical that a model review is appropriate to its "application niche" (as discussed by D.P. Loucks[6]). Understanding the suite of questions and issues that a model is intended to address is fundamental to the review process. The application niche should be a juxtaposition of A) the real or perceived needs of the "users" and B) the realistic capabilities portrayed by the model developers: the intersection of A & B is the intended target of the model review. Perhaps the most confusing component of model utility revolves around the perception and the reality of a model application niche. Model reviewers must have a reasonably

[3] WebBoard containing all information of SFWMM review: http://webboard.sfwmd.gov:8080/~SFWMM
[4] Web site containing all information of RSM review: http://www.sfwmd.gov/site/index.php?id=681
[5] Agency- reviewer comments and ELM developer responses at: http://www.sfwmd.gov/org/wrp/elm/news/news.htm
[6] D.P. Loucks of Cornell University made a variety of recommendations on modeling and peer review to the South Florida Water Management District in: Loucks, D. P. 2003. Modeling and Peer Review Protocols for Use in HSM (OOM) and IMC for CERP and RECOVER. Report to SFWMD, West Palm Beach.

thorough definition of this application niche, or become sidetracked into a review that is either entirely too superficial or entirely too all-encompassing.

The ELM application niche is broadly defined in the Background of this document, is specified in more detail via Performance Measure Objectives within the Introduction section of the ELM documentation[7], and demonstrated in practice within the Model Performance section of that documentation. The model Performance Measures to be used in comparing relative benefits of alternative management scenarios define the specific Objectives of the model, including the spatio-temporal scale of application. While there are "user" requests for ELM to address a larger suite of questions, the relatively narrower subset of *current* model Objectives defined by the Model Developers should be considered to be the *current* application niche of the ELM. It is this application niche that is to be considered during this peer review.

The first step in this review process is to ensure that the Review Panel fully understands this application niche, and agrees with the associated Scope of Work. The Facilitator will work with all parties to resolve any significant uncertainties in the Scope of Work. This first step of the review allows this document's Scope of Work section to be modified as deemed necessary by the Panelists, in accordance with this document's section on Responsibilities.

3.3 Objectives: Model Review Criteria

After the Review Panel has been formed, and has acknowledged an understanding of the Goals of the Review and the application niche of the ELM, the more specific Objectives of the review need to be understood. In order to meet the overall peer review Goals, it is highly desirable to have guiding Objectives that encompass the important criteria to be used in the overall assessment of the model. This Scope of Work provides the following guidance on model review criteria that have been deemed generally useful in understanding models and their applications, particularly in the context of regional models in south Florida.

The second step in this review process is to ensure that the Review Panel concurs with the usefulness of the following basic criteria, and agrees with the associated Scope of Work. The Facilitator will work with all parties to resolve any significant uncertainties in the Scope of Work. This second step of the review allows this document's Scope of Work section to be modified as deemed necessary by the Panelists, in accordance with this document's section on Responsibilities.

Consistent with the overall Goal of this review, the overall question to be answered can be summarized as: *Can the model be applied to make relative comparisons of Performance Measure(s) among model runs, with a level of*

[7] All documentation for ELM is found at: http://my.sfwmd.gov/elm

certainty acceptable for decision support at the scale that is needed for the Performance Measure(s)?

With this question in mind, the following general criteria should be considered in reviewing the model and its application. Providing well-supported answers to these questions constitute the specific Objectives of this peer review of the ELM. More detailed criteria within each topic are *suggested* in Appendix A of this document.

Adequacy of documentation:

Is the documentation sufficient in depth and breadth to fully understand the model design, performance, and appropriate application?

Spatial and temporal scales:

Can the model be applied at spatio-temporal scales that provide meaningful results relative to the stated model objectives? (Scale is considered in virtually all model characteristics – it is separated here for emphasis).

Model theory relative to objectives:

Is the model design and theory sufficient to address questions relevant to the stated model objectives?

Model performance, calibration/validation:

Relative to the stated model objectives, has it been demonstrated that the model output adequately matches historical observations?

Model performance, uncertainty:

Can users of the model (who must interpret its output) be reasonably confident that the model can forecast relative differences among alternative management scenarios?

Model application:

Considering the model design and performance, are there appropriate applications of the model to evaluate Performance Measure differences among alternative management scenarios?

Model refinements/alternatives:

Are there any refinements to the model that *must be made* prior to useful application? Moreover, if the model is deemed insufficient in some fundamental way, what existing (or reasonably certain) alternative method could be adopted to achieve the same goals?

4.0 WORK BREAKDOWN STRUCTURE

To successfully complete the above mentioned deliverables and daily work production support items, Dr. _____ will work within the following parameters and provide the following work products:

4.1 Membership on the Peer Review Panel

The Panel of Reviewers will be experts in the appropriate field(s) of science, and are expected to provide unbiased opinions on the topic(s) being considered. The success of this review process depends on the willingness of widely recognized experts to fully participate in understanding and critiquing the model application to restoring America's Everglades.

STOP/GO Definition: At the end of every Task, District shall review the project need, funding, and the Consultant's deliverables, and determine whether additional work is warranted. Should the District determine that no further work is needed, the work order will be terminated immediately and no further work will be authorized.

If the District determines to proceed with subsequent phases of work, an amended work order shall be executed by the parties at the STOP/GO point to include a detailed breakdown structure for the next phase. The work order shall be further amended only at the option of the District.

Expertise required

A Panel consisting of three to four members will be assembled for the review of the model. Professional credentials in integrated ecological modeling, or combinations of landscape, water quality, and hydrologic modeling, is required - in addition to experience in peer review of modeling efforts. Expert knowledge of systems ecology, landscape ecology, wetland ecology and management, biogeochemistry, and/or environmental statistics is also desirable in Panel members. Panelists should understand the challenges of scaling issues and uncertainties associated with regional scale models. At least one member should have experience in linking science to environmental management to ensure technical comments are directed at topics most relevant to management information needs of the Comprehensive Everglades Restoration Plan (CERP).

The qualifications and experience of potential reviewers will be assessed in four general areas:

Academic Specialties: Panelists must have demonstrated education, professional positions and experience in one or more of the subject-areas relevant to applied ecological, landscape, and water quality modeling, preferably at regional scales. Advanced degrees, technical reports, research projects, professional positions and peer reviewed publications will be used to demonstrate technical qualifications.

Peer Review: Reviewers should be highly experienced in the peer review process of regional modeling and environmental science. They should have participated in complex reviews of models and programs related to modeling, particularly those

involving environmental decision supports. Other review experience is also important, such as manuscript reviews, editorial work and advisory activities.

Applied Modeling: While specific academic experience is important, it is also critical that the Panelist have an understanding of the challenges of model application in regional environmental management. Publications, consulting, or other contractual experience in developing and applying models to environmental problems will be considered evidence of experience in this area.

Freedom from Potential Conflicts of Interest: Reviewers should have no substantial personal or professional ties to any person, agency, or organization working in South Florida on subjects related to environmental modeling and management. Obvious examples of such associations are: contracting with environmental agencies or organizations in South Florida, shared academic, agency, research or other professional affiliations, and close personal relationships with persons involved with ELM or interested parties.

Team or Individual	Deliverable(s)	Duration	Work Site
Dr. ____	1.0 Agreement with Scope of Work	7 July 2006 (or Execution date of Purchase Order + 11 calendar days)	Offsite
	2.0 Contribution to Workshop I	1 Aug 2006 (or Execution date of Purchase Order + 31 calendar days)	SFWMD Headquarters, Building 2, 3301 Gun Club Road, West Palm Beach, Florida 33406
	3.0 Contribution to Draft Review Report	28 September 2006 (or Execution date of Purchase Order +90 calendar days)	Offsite
	4.0 Contribution to Workshop II	4 December 2006 (or Execution date of Purchase Order +156 calendar days)	SFWMD Headquarters, Building 2, 3301 Gun Club Road, West Palm Beach, Florida 33406
	5.0 Contribution to Final Review Report	16 January 2007 (or Execution date of Purchase Order +227 calendar days)	Offsite

Review products Detailed:

Task 1 – Agreement with Scope of Work

- All Panelists: understand and agree with Scope of Work, specifically a) the Model Application Niche, and b) the Model Review Criteria. This deliverable is provided in written form; if changes are deemed necessary, the panelists provide revisions to those sections of the Scope of Work in this document (to

best meet overall Goals and specific Objectives in this document, in consultation with Facilitator)

Task 2 – Contribute to Workshop I

- All Panelists: initial written comments or questions regarding model; especially model documentation topics that need clarification at Workshop I
- All Panelists: professional participation at Workshop I

Task 3 – Contribute to Draft Review Report

- All Panelists: written contributions to Draft Review Report, towards meeting all of the Goals and Objectives of this Statement of Work. In formulating their written review, Panelists should use specific examples where possible to illustrate their comments.

Task 4 – Contribute to Workshop II

- All Panelists: professional participation at Workshop II

Task 5 – Contribute to Final Review Report

- All Panelists: written contributions to Final Review Report, towards meeting all of the Goals and Objectives of this Statement of Work. In formulating their written review, Panelists should use specific examples or case studies where possible to illustrate their comments.
- Panel Chair: completed Final Review Report (collaboratively written by all Panelists) that specifically meets the Goals and Objectives of this Statement of Work. The Panel Chair will ensure that this Report represents a consensus viewpoint of the Panel, or documents viewpoints if no consensus can be reached.
- Report format: full deliverables provided in Adobe PDF format, will all supporting document pieces provided in MS Word and commonly available graphics format(s). Appendix B outlines the minimum required level of organization for review comments.

5.0 PERFORMANCE

Dr. _____'s performance for the terms and condition of Purchase Order will be evaluated at the following frequencies:

1. 30 days after execution of work order, and every 180 day there after if amendments to purchase order are deemed necessary in the future.
2. Final performance evaluation as requested by Project Manager
3. Additional evaluations as determined by the Project Manager

A Running Average Score ≥ 3.0 is required for all individual contractors to maintain active contract status. A copy of the SFWMD contract performance sheet is attached as reference.

6.0 DELIVERABLE AND PAYMENT SCHEDULE

The Consultant may invoice the District no later than 21 days after the end of the month in which the work was accomplished, with a final Fiscal Year (FY07) invoice due by 22 January 2007 for all work accomplished in December 2006, and/or all previously unbilled work completed through the fiscal year ending September 30, 2007. Dates of Workshops are flexible in accordance with ability to schedule near those dates. This work order covers "Panel Membership (*Pan*)" items below.

Task	Description	Responsible Party	Due (elapsed-days)	Due date
Fac_0	Initiation of peer review process	Facilitator	0	30-Jun-06
Dev_0	Model documentation posted (public web site)	Developers	8	7-Jul-06
Pan_1	Written agreement on Scope of Review (to Facilitators, Project Manager)	Panelists	11	10-Jul-06
Pan_2a	Initial written questions/comments on model, for topic guidance in Workshop I	Panelists	21	21-Jul-06
Fac_1 Pan_2b	Public Workshop I: Day 1, Topics determined by Panel; Day 2, a half-day Panel working session	Facilitator; participation by Developers, Panel	31	1 Aug-06
Pan_3	Review of model: Draft Review Report posted (Website)	Panel	90	28-Sep-06
Dev_1	Response document to Draft Review Report posted (Website)	Developers	145	22-Nov-06
Fac_2 Pan_4	Public Workshop II: Day 1, Discussion/clarifications of model for Panel, Developers; Day 2, a half-day Panel working session	Facilitator; participation by Developers, Panel	156	4-Dec-06
Pan_5	Review of model: contributions to Final Review Report posted (Website)	Panel	180	27-Dec-06
Pan_5	Panel Chair posts (collaborative results of) Final Review Report to Website	Panel Chair	200	16-Jan-07
Dev_2	Final Response Document (not part of Final Review Report)	Developers	227	12-Feb-07

7.0 HARDWARE AND SOFTWARE

Dr. ____ shall provide all the hardware and software compatible with specifications outlined in Appendix D necessary to execute this Purchase Order. Dr. ____ will be provided access to the SFWMD's Intranet, modeling, data processing, GIS tools and databases when necessary and only after executing SFWMD IT access requirements.

8.0 PUBLICITY AND PUBLICATION REQUIREMENTS

Dr. _____ shall not issue any news releases or other media sources pertaining to activities supported by this Purchase Order or implicitly endorse any products, services or programs of the Purchase Order without prior written permission from SFWMD. Requests for permission shall be submitted to the SFWMD Contract Manager.

Publication of the results of this endeavor in the appropriate professional journals is encouraged as an important method of recording and reporting scientific information. When releasing information related to this Purchase Order, Dr. ___ is required to include a statement that the effort was conducted under the sponsorship of SFWMD and submit draft abstracts and manuscripts to SFWMD staff for review prior to submission for publication.

APPENDIX A: Examples of Specific Model Review Criteria

Adequacy of documentation: Is the documentation sufficient to understand the:

- model objectives
- input data
- key assumptions
- algorithms & model functionality
- output data and model performance
- (adequacy of user guide for detailed model reformulation, or for specific applications, is outside of review scope)

Spatial and temporal scales:

- How well does the model represent spatial dynamics relative to the needs of the variables that are associated with its CERP Performance Measures?
    - is the resolution sufficiently fine to capture relatively fine-scale (ca. 1 km) subregional gradients over the regional greater Everglades domain?
- How well does the model represent temporal dynamics relative to the needs of the variables that are associated with its CERP Performance Measures?
    - can the model capture long term decadal trends, annual changes, seasonal changes?
- Can the model potentially be applied at subregional scales that may provide useful information to evaluation of individual CERP Projects?

Model design relative to objectives: Does the overall design & structure of the model meet the following basic characteristics:

- has an adequate match between data availability and model complexity; i.e., are available data sufficient to support the scope of the model?
- is potentially capable of predicting response to altered (future) environmental inputs that are outside of the (past) envelope of observed conditions;
- spatially and temporally integrates dynamics across a regional domain (for CERP RECOVER needs, ca. thousands of km^2);
- useful in simulating decadal time scales for long term project planning

Model performance, calibration/validation:

- Are useful/appropriate methods used to assess model performance (i.e., calibration/validation)?
- Is the model performance "adequate"
    - relative to its objectives and
    - relative to available boundary condition data and comparative target data?
- Are these performance methods and results comparable to other models with similar objectives?
- Are there important dynamics that require a demonstration of performance, but which are omitted from the documentation?
- Are there any specific circumstances in which model performance is not acceptable?
- If deemed necessary, how can model performance be improved with available

data?

Model performance, uncertainty:

- How well has the uncertainty associated with the model been demonstrated?
- Are the methods and the results of sensitivity and/or uncertainty analyses (if any) adequate?
- Are these methods and results comparable to other models with similar objectives?
- Can all, or some, of the major sources of uncertainties be identified?
- If deemed necessary, how exactly can the model be improved with respect to documenting uncertainty?

Model application:

- Using the CERP Performance Measures, can the model be applied to make relative comparisons among model runs with a level of certainty acceptable for decision support at the intended scales?
- Is the model adequately calibrated with respect to the requirements of its CERP performance measures?
- What, if any, numerical, temporal, or spatial constraints or caveats would you recommend for the use of this model to evaluate CERP alternatives?
- If deemed necessary, how exactly can the model be improved with respect to CERP applications?

Model refinements/alternatives:

- What enhancements, both long term (5 years) and immediate (6 months), do you recommend given the intended use of the model?
- Are there preferred alternative approaches that produce numerical differentiation of scenarios with a consideration for uncertainty?

APPENDIX B: Peer Review Report Organization

Required Format for review comments

Each reviewer should, at minimum, organize comments and questions within the major categories of Essential and Non-Essential

I. Essential recommendations

Comments or questions that involve major model strengths, and/or crucial model deficiencies that must be addressed prior to application of the ELM to long-term project planning.

A) Principal strengths of model & its application
B) Clarifications that are required
C) Corrections or refinements that are required, indicating "why and how"

II. Non-essential recommendations

Comments or questions that involve useful model features, or improvements to model utility for long-term project planning.

A) Useful features of the model & its application
B) Clarifications that would improve model understanding
C) Corrections or refinements that would increase model utility, indicating "why and how"

III. Editorial comments (optional)

The Goals & Objectives of Review do not include editing the readability or style of document. However, we welcome such editorial comments.

A) Strengths of documentation
B) Improvements to organization of documentation
C) Improvements to readability of text and graphics

APPENDIX C: Outline of Roles & Responsibilities Performed by Other Members of the Peer Review Effort

NOTE: This Appendix is provided for general coordination and informational purposes only; and is not part of the Review Panel responsibilities outlined in this Statement of Work.

Review Facilitator

The Review Facilitator is responsible for ensuring that communications among all parties are clearly understood, but does not provide technical opinions on the model itself. The Facilitator is expected to be free from conflicts of interest that would interfere with this professional role.

Expertise required

The Facilitator should have demonstrated success in facilitating scientific discussions/reviews. This includes sufficient scientific background to: a) discern expert professional characteristics in the Panel- candidates' records of scientific accomplishments; b) distinguish crucial issues involved in Everglades science & restoration from peripheral "sidebar" topics; and c) understand and summarize basic scientific/modeling concepts that are communicated during workshops and other venues. Evidence of these capabilities includes records of successful facilitation of similar peer review or consensus-building efforts in south Florida or elsewhere.

Panel assembly

- select Panel members and Panel Chair from a list of candidates provided by Project Manager
- coordinate payment mechanisms with each Panel member

Liaison

- support Panel Chair in resolution of logistical questions or information-requests
- primary communication link between Panelists and Developers (if/when clarifications are required)
- ensure products from Developers and Panelists are properly posted in public WebBoard[8] forum
- understand and comply with Florida Sunshine Law[9] during communications

[8] A web-based technology for collaborative exchange of information; an example of use in Peer Review of the annual South Florida Environmental Report is at http://www.sfwmd.gov/sfer/

[9] Open-government laws for state of Florida, http://myfloridalegal.com/sunshine

Workshops

- secure meeting facilities in West Palm Beach area to conduct public workshops
- notify Panel members of their responsibility to arrange their own travel, given their travel budget
- develop agenda with input from Panel, ensure feasibility from Developers' perspective
- provide notification/reminder of workshop dates
- facilitate discussions among Review Panel, Model Developers, and Stakeholders
- maintain a record of discussions during the workshops
- oversee any teleconferences, collaborative discussions, email lists, or other forms of communication per Sunshine Law requirements

Reporting support

- notify/remind Panel and Model Developers of products that are pending
- if Review Panel desires modification to their Scope of Review, ensure that such revisions maintain the general intent of this review and are publicly posted on the WebBoard
- facilitate the modification of style and format of Panel's Draft and Final Review Reports as needed to comply with the review Goals and Objectives
- resolve concerns regarding timeliness or quality of products from Developers and Panelists
- assure that deliverables from Review Panel are graded by District staff with respect to meeting their contractual obligations of scope and timeliness; communicate those contractual assessments to Panel members

Project Manager

The Project Manager is a South Florida Water Management District employee who primarily ensures the availability of funds and other resources, in addition to verifying that Facilitator, Panel members, and Model Developers comply with agreements in this Statement of Work.

Contractual

- maintain budget and any revisions that are made to this Statement of Work
- negotiate contractual agreements w/ Facilitator
- resolve logistical problems during review process (e.g., travel, electronic communication)

- ensure timely payments to Panelists and Facilitator per Schedule of Payments

Coordination

- assemble list of Panel candidates from available sources
- ensure availability of SFWMD resources (e.g., WebBoard)
- track delivery of products from Developers, Panelists, and Facilitator
- verify compliance with Florida Sunshine Law

Model Developers

The current Model Developers are South Florida Water Management District employees who are responsible for maintaining the model and its documentation. Their primary responsibility during the peer review process is to be responsive to requests for information as defined in the Schedule. Communications between the Review Panel and the Model Developers are all done "in the Sunshine".

Review products

- distribute model documentation on public web site
- respond to Panel questions and/or comments:
    - with Panel-requested documentation enhancements during Workshop I;
    - with written clarifications or resolutions to problems identified in Draft Review Report, as feasible depending on scope of issue;
    - through the public liaison function of the Facilitator, efforts will be made to be reasonably responsive to other reviewer requests for information during the course of the review
- the Model Developers resolve to make reviewer-suggested model refinements that are found to be essential to meeting the model goals; depending on their scope, such refinements may not necessarily occur within the time frame of the review process

Stakeholders

The public and other-agency Stakeholders may participate in the peer review process via the open WebBoard and public Workshops. The Facilitator ensures that the Panel is able to remain focused on creating the desired product – independent, expert peer review of the scientific validity of the model. The reports of the Review Panel members constitute the independent, expert scientific peer review of the model.

APPENDIX D: Equipment Standards (Minimum)

Dell OptiPlex GX270 Mini-Tower

Base Unit:	2.8 GHz Pentium 4
Memory:	512MB
Keyboard:	Entry Level
Monitor:	19" Flat Panel
Video Card:	64MB
Hard Drive:	40GB
Floppy Disk Drive:	3.5"
Mouse:	Dell/Logitech – USB Optical Wheel, Mouse Pad
CD-ROM or DVD-ROM Drive:	CD R/W, DVD-ROM Combo
Speakers:	Yes
Other:	
Software – Bundled, Standard	***Software to be purchased with each system.***
Operating System	Windows XP Professional
CD Writing Tool	Roxio Easy CD Creator (on CD/RW units)
Software – Additional	***Additional software to be purchased to perform work.***
Specialized software	*Reflection X 12.0, Adobe Acrobat 6.0 Professional*
Software – SFWMD Image	***Site licensed software included on the SFWMD standard desktop image.*** ***No purchase required for systems to be loaded with this image***
Office Suite	Microsoft Office XP
Virus Protection	McAfee
Remote Access Client	Remote Control (if other than XP)
PDF File Reader	Acrobat Reader
Oracle Tools	Oracle Client Apps
Email & Calendar Tools	Microsoft Outlook
Service Management Tool	Remedy
Terminal Emulator	E-Term 32
Internet Browser	Internet Explorer
Desktop Mgt. & Discovery Tool	LandDesk Client
Video & Sound Mgt. Tool	Real Player
File Compression Mgt.	Winzip
Application Access Tool	Citrix ICA Client
Client Backup	PC Connected
--- District use only --- VPN Hardware/Software --- ***Additional VPN hardware and software requirements, if applicable. Example: key fob for Cisco or Citrix VPN***	
Cisco/Citrix VPN (select one)	SecurID Key Fob