DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, US ARMY CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
BROOKLYN, NEW YORK 11252-6700

REPLY TO
ATTENTION OF

SEP 29 2008

CENAD-PSD-P

MEMORANDUM FOR Commander, Philadelphia District, ATTN: CENAP-PL

SUBJECT: Review Plan Approval for Susquehanna and Delaware River Basins Southern Anthracite Coal Region, Pine Knot, Schuykill, Pa, Interim Feasibility Study

1. Reference:

a. EC 1105-2-410, Review of Decision Documents, 22 August 2008.

b. Memorandum, CECW-CP, 30 March 2007, subject: Peer Review Process.

2. The enclosed Review Plan for the Susquehanna and Delaware River Basins Southern Anthracite Coal Region, Pine Knot, Schuykill, Pa, Interim Feasibility Study has been prepared in accordance with the referenced guidance.

3. The Plan has been made available for public comment, and any comments received have been incorporated. It has been coordinated with the Ecosystem Planning Center of Expertise of Mississippi Valley Division which is the lead office to execute this Plan. The Plan currently does not include independent external peer review.

4. I hereby approve this Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Plan or its execution will require new written approval from this office.

Encl

Joseph R. Vietri
for Chief, Planning & Policy Community of Practice
Program Support Division
Programs Directorate

SUSQUEHANNA and DELAWARE RIVER BASINS SOUTHERN ANTHRACITE COAL REGION, PINE KNOT, SCHUYKILL, PA, INTERIM FEASIBILITY STUDY

REVIEW PLAN (RP)

1.0 PURPOSE

This Review Plan (RP) presents the review process that assures quality products for the Susquehanna and Delaware River Basins Southern Anthracite Coal Region, Pine Knot, Schuylkill, PA, Interim Feasibility Study. This RP define the responsibilities and roles of each member on the study and review teams.

This RP documents existing Agency Technical Review (ATR) processes and identify future actions to make the study compliant with existing policy.

Under the provisions of current U.S. Army Corps of Engineers (USACE) policy, ATR will be conducted by specialists from organizations outside of the district responsible for the study. ATR will be conducted for all decision documents requiring headquarters approval and will be independent of the technical production of the project.

2.0 APPLICABILITY

This document provides the Quality Control Plan for the Feasibility Study. It identifies district quality control processes and independent technical review for all work to be conducted under this study authority, including in-house, sponsor and contract work.

3.0 REFERENCES

EC1105-2-410 "Review of Decision Documents" dated 22 August 2008
EC 1105-2-407 "Planning Models Improvement Program: Model Certification" (May 31, 2005)
EC 1105-2-409 "Planning in a Collaborative Environment" (May 31, 2005)
ER 1105-2-100 "Planning Guidance Notebook & Appendices"

4.0 GENERAL PROJECT DESCRIPTION

This study is authorized by a resolution of the U.S. House Committee on Transportation and Infrastructure dated May 28, 2002, directing the U.S. Army Corps of Engineers to conduct a study for a potential water resources project or projects for the Susquehanna and Delaware River Basins. The authority reads:

"Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, that the Secretary of the Army is requested to review the report of the Chief of Engineers on the Susquehanna River and Tributaries, New York, Pennsylvania and Maryland, Published as House Document 702, 77th Congress, 2nd Session, the report of the Chief of Engineers on the Delaware River Basin, New York, New Jersey, Pennsylvania and Delaware

published as House Document 522, 87th Congress, 2nd Session, and other pertinent reports to determine the need for improvements in the interest of aquatic ecosystem restoration and protection, particularly as related to abandoned mine drainage abatement, floodplain management, flood control, water supply, and other allied purposes for the watersheds of the Susquehanna and Delaware River Basins lying within the Southern Anthracite Coal Region of the Commonwealth of Pennsylvania."

In addition, the fiscal year 2003 Energy and Water Development Appropriations Act provided funding of $100,000 to produce a 905(b) Analysis report and negotiate further feasibility studies, if appropriate. Additional funding of $200,000 has been provided for the completion of the Project Management Plan (PMP) and negotiation of the Feasibility cost sharing agreement for both the Southern Anthracite Coal Region study and the Pine Knot, Schuylkill River, PA Interim Feasibility study.

In response to this study resolution, the Corps of Engineers Baltimore District, conducted the Southern Anthracite Coal Region 905(b) Reconnaissance Report, dated March 2004, and was approved by Corps Headquarters May 2004. The study finds that there is federal interest in pursuing a feasibility phase study for the Southern Anthracite Coal Region. From its headwaters in Tuscarora Springs, Schuylkill County, Pennsylvania, the Schuylkill River flows southeasterly for approximately 80 miles before meeting the Delaware River near Philadelphia. The roughly 1900 square mile basin encompasses portions of 10 counties, including Carbon, Schuylkill, Lehigh, Berks, Lebanon, Bucks, Montgomery, Chester, Delaware, and Philadelphia. Major tributaries include West Branch Schuylkill River, Little Schuylkill River, Maiden Creek, Tulpehocken Creek, Manatawny Creek, Perkiomen Creek, French Creek, and the Wissahickon Creek and many other smaller tributaries.

Working in cooperation with the Pennsylvania Department of Environmental Protection (PADEP), the Schuylkill Action Network (SAN), the Schuylkill Headwaters Association and other key agencies this project will focus on determining the annual ranges of flow rates and water quality on the Pine Knot Discharge and West Branch Schuylkill River. By reducing recharge to the mine pools and treating any remaining discharge from Pine Knot it is this project's goal to reduce metal loadings to the West Branch Schuylkill and thereby increasing the streams chance of being removed from the 303(d) list for impaired streams. The SAN has already identified the drainage basin which is contributing flow to the Pine Knot tunnel and has sampled 40 stream locations which will be used to set priorities. By bringing lost streams back to the surface and reclaiming strip pits much of the recharge of Pine Knot can be eliminated and therefore will make this a treatable site.

As identified in the reconnaissance report, the goal is to identify opportunities for environmental restoration and protection (aquatic and terrestrial). This will likely be accomplished through wetland creation, day lighting streams and reclaiming strip pits.

5.0 REVIEW REQUIREMENTS

Initial District Quality Control (DQC) review will be managed within the Section or Branch performing the work or by staff in the corresponding Sponsor Department when it involves In-

Kind Services. Additional DQC will be performed by the PDT during the course of completing the integrated Feasibility Study. The detailed checks of computations and methodology should be performed at the District level, and the processes for this level of review are well established.

Models used in the preparation of decision documents will be in accordance with EC 1105-2-407, Planning Models Improvement Program: Model Certification. At this time it is not known what models will be used.

Pursuant to EC 1105-2-410, the integrated Feasibility Report will need an ATR team assigned by the PCX for Environmental Restoration (National Ecosystem Planning) Projects. It is recommended that the ATR be handled entirely within USACE, as the scope and technical complexity do not warrant an Independent External Peer Review (IEPR), based upon the initial Risk Screening Process conducted by the Project Development Team (PDT) (and approved by North Atlantic Division) noted in Section 9. It is anticipated that implementation costs will not exceed $2 million and therefore will not trigger the need for the IEPR ($45 million is the current threshold). The team leader of the ATR team will external to North Atlantic Division. It is anticipated that while this study will be challenging and beneficial, it will not be novel, controversial or precedent setting, nor have significant national importance. As a result, the external ATR will focus on:

- Review of the planning process and criteria applied.
- Review of the methods of preliminary analysis and design.
- Compliance with USACE authority and NEPA requirements.
- Completeness of preliminary design and support documents.
- Spot checks for interdisciplinary coordination.

6.0 REVIEW PROCESS

It is anticipated that the ATR Team Review Process will begin after the ATR Team has been assigned, and will address the feasibility study and associated products developed to date. As alternative plans are formulated, the Review Process will focus on data, assumptions and the engineering, scientific, economic, social & environmental analysis process. Major Review Process milestones are listed below:

- Approval of Review Plan by NAD
- ATR team assigned by PCX
- P-8 Milestone – AFB RAM
- AFB
- Draft Report Review
- Final Report Review

7.0 REVIEW COST

The cost of the ATR is to be determined in conjunction with the PCX. It is assumed that documents to be reviewed will be transmitted electronically. Comments will be made and addressed in Dr. Checks. It is also assumed that the ATR team will be working virtually. Only under extreme circumstances should the ATR team, or a representative of that team, be required

to physically attend team or milestone meetings. The team should participate in all milestone meetings; however, via conference call or video tele-conference.

8.0 REVIEW SCHEDULE

TASK	START DATE	FINISH DATE
Develop RP & post to Web Site, PCX	Oct 08	Oct 08
Identify Regional ATR resources & Recommend ATR Plan to PCX	Nov 08	Nov 08
PCX Approves or Assigns ATR Team	Feb 2009	
Review of Draft Feasibility Report	first Quarter 2012	
Review Final Feasibility Report	3rd Quarter 2012	

9.0 PROJECT RISK

The PDT members were asked to rate their assessment of the risk associated with this project based upon several factors and rate the project quantitatively among the defined levels of project risk of failure ranging from low to high. Based upon this analysis by the PDT, the project is projected to be low to medium in risk. The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating, so it is likely that the risk level would have been lower if the team were to have compared the risk of this project to a large ecosystem restoration project. The Project Delivery Team (PDT) scored each item in the DQCP Score Guide (Table 9.1) to get an average score. The Project schedule and cost were assessed as a low degree of risk if they both remained flexible and a high degree of risk if the Project schedule and cost was fixed. Staff Technical Experience was assessed as a low degree of risk if the staff had a high level of ecosystem restoration experience and a high degree of risk if the staff had a low level of ecosystem restoration experience. The score for the risk items were summed and the average value of the Assessment Score was used to determine the overall level of project risk. The results of the evaluation are tabulated as follows:

Table 9.1 District Quality Control/Review Plan Score Guide

Project Risk Item	**Assessment Score (Low Degree to High Degree)**					**Score**
	Low		Medium		High	
Potential for Failure	1	2	3	4	5	2
Uncertainties of Predictions	1	2	3	4	5	3
Long Term Cumulative Effects/Customer Expectations	1	2	3	4	5	3
Staff Technical Experience	1	2	3	4	5	3
Failure Impact and Consequences	1	2	3	4	5	2

Average Project Risk Assessment Score						**2.6**
Project Magnitude Item						
Product Schedule/Cost	1	2	3	4	5	4
Project Complexity	1	2	3	4	5	3
Project Benefits	1	2	3	4	5	4
Project Scale	1	2	3	4	5	3
Average Project Magnitude Assessment Score						**3.50***

*Average score of 4 is needed to warrant Independent External Peer Review.

10.0 REVIEW PLAN

The components of the Review Plan (ATR only) were developed pursuant to the requirements of EC1105-2-410.

10.1 Team Information

The decision documents that will be the ultimate focus of the review process are the integrated Feasibility Report, the Division Commander's Transmittal Memo, and the Environmental Record of Decision (ROD). The purpose of the decision documents will be to begin the approval process leading to the authorization to begin Plans & Specifications.

The PDT is listed as follows. This list provides the names and points of contact of NAP team members that are available to answer specific technical questions as part of the Peer Review Process. The list also provides the names and organization of participating outside entities.

District PDT Members:

Project Manager – Richard Fonorow
Environmental Specialist – Greg Wacik
Economist – Bob Selsor
Hydraulic Engineer – Christine Tingle
Civil/Structural Engineer – Alyssa Dunlap
Geotechnical Engineer – Chuck Sutphen
Real Estate Specialist – Heather Sachs
Cost Engineer – Harry Steiner

Non-District PDT Members:

Pennsylvania Department of Environmental Protection

Agency Technical Review Team:

PCX to Provide

ECO-PCX POC –
Planning
Economics
Environmental
Real Estate
Engineering:

- Hydraulics & Hydrology
- Civil Structural
- Geotechnical
- Cost Estimating

10.2 Scientific Information
Based upon the self-evaluation by the PDT, it is unlikely that the USACE report to be disseminated will contain influential scientific information. The environmental restoration measures will be identified using standard engineering and economic methods. It is unlikely that this study will create new and untested methods or unique scientific information; however, it will benefit from ongoing research by others and from practical lessons learned during the course of the restoration program.

Economic and planning processes will additionally consider the Collaborative Planning EC. This EC describes all the economic accounts that can be used to describe economic benefits. The four main economic accounts are national economic development (NED), national ecosystem restoration (NER), regional economic development (RED), and the other social effects (OSE).

10.3 Timing
The ATR process is envisioned to begin with an assessment of the evaluation and comparison of alternative plans in this feasibility study. It is anticipated that work would start within days of naming the external ATR team. The estimated schedule is noted in Part 8 of this QCP.

10.4 Independent External Peer Review (IEPR) Process
No IEPR process is envisioned at this time. This assessment is supported by the evaluation of the PDT and tabulated as shown in Section 9 of this RP.

10.5 Public Comment
Public involvement is anticipated throughout the remainder of the Feasibility Study. The Public Involvement meeting dates have not been scheduled at this time.

It is anticipated that minutes of Public Involvement Meetings will be disseminated to the Peer Review Team. This will allow the public response to be available to the ATR team for their review.

10.6 ATR Reviewers
It is anticipated that reviewers should be available in the following disciplines:

Planning, Economics, Environmental, Real Estate, Engineering.
The expertise that should be brought to the review team includes the following:

1) Planning – The reviewer should have recent experience in reviewing Plan Formulation processes for ecosystem restoration studies and be able to draw on "lessons learned" in advising the PDT of best practices.
2) Economics – The reviewer should have a solid understanding of economic models including incremental cost analysis.
3) Environmental – The reviewer should have a solid background in natural stream restoration techniques, and related restoration issues.
4) Real Estate - the reviewer should have a solid background in real estate requirements and the use of easements for environmental restoration.
5) Engineering - The reviewer should be familiar with low tech design techniques and ecological methods used for stream restoration.

10.7 IEPR Selection

Because an IEPR is not anticipated for this study, there is no IEPR selection. If warranted, the PCX will select a qualifying organization (external to the Corps). This organization would perform IEPR panel selection.