



DEPARTMENT OF THE ARMY  
US ARMY CORPS OF ENGINEERS NORTH ATLANTIC DIVISION  
FORT HAMILTON MILITARY COMMUNITY  
302 GENERAL LEE AVENUE  
BROOKLYN NY 11252-6700

CENAD-RB-T

DEC 9 2016

MEMORANDUM FOR Commander, Philadelphia District, 100 Penn Square East,  
Philadelphia, Pennsylvania 19107-3390 (CENAP-PD-OP/Mr. Robert Phillips)

SUBJECT: Approval of the Review Plan for the Blue Marsh Dam, Western Berks Water  
Authority Hookup, Section 408 Request

1. References:

a. Memorandum, CENAP-EC, 22 August 2016, subject: Review Plan for Blue Marsh  
Dam, Western Berks Water Authority Hookup, Section 408 Request

b. EC 1165-2-216, Policy and Procedural Guidance for Processing Request to Alter  
US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408, 31 July  
2014

c. EC 1165-2-214, Civil Works Review Policy, 15 December 2015

2. The enclosed Review Plan for the Blue Marsh Dam, Western Berks Water Authority  
Hookup was prepared in accordance with Reference 1c. The project consists of the  
construction of approximately 4,000 feet of 24 inch ductile iron pipe that will connect to  
the project's existing water supply selective withdrawal system. This connection was  
anticipated during design of the project.

3. The North Atlantic Division is the Review Management Organization for this project.  
The ATR will be managed by the Philadelphia District. The Review Plan does not  
include Type II Independent External Peer Review (Safety Assurance Review) because  
the project does not include design or construction activities that involve potential  
hazards which pose a significant threat to human life.

4. The Review Plan for the Blue Marsh Dam, Western Berks Water Authority Hookup,  
Section 408 is approved. The Review Plan is subject to change as circumstances  
require, consistent with project development under the Project Management Business  
Process. Subsequent revisions to this Review Plan require new written approval from  
this office.

5. In accordance with Reference 1c, Appendix B, Paragraph 6, post this approved  
Review Plan on your district website for public review and comment. The Review Plan  
will also be posted on the Division website.

CENAD-RB-T

SUBJECT: Approval of the Review Plan for the Blue Marsh Dam, Western Berks Water Authority Hookup, Section 408

6. The point of contact is Ralph LaMoglia, PE, Hydraulic Engineer, 347-370-4599, ralph.lamoglia.civ@mail.mil

Encl  
as



WILLIAM H. GRAHAM  
Brigadier General, USA  
Commanding

CF:  
CENAP-EC-EG (Mr. Robert Phillips)



DEPARTMENT OF THE ARMY  
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS  
WANAMAKER BUILDING, 100 PENN SQUARE EAST  
PHILADELPHIA, PENNSYLVANIA 19107-3390

CENAP-EC

AUG 22 2016

MEMORANDUM FOR CENAD-PD-OP

SUBJECT: Review Plan for Blue Marsh Dam, Western Berks Water Authority Hookup,  
Section 408 Request

1. Respectfully request that the attached review plan be approved for a Section 408 Review regarding the proposed modification of Blue Marsh Dam, Western Berks Water Authority Hookup, pursuant to 33 USC 408.
2. This Review Plan was developed from an examination of the nature and scope in accordance with the requirements set forth in the Civil Works Review Policy (EC 1165-2-214) and EC 1165-2-216 "Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Project Pursuant to 33 USC 408", dated 15 December 2012 and 31 July 2014 respectively.
3. The Risk Management Center (RMC) reviewed the Review Plan and has concurred that the MSC is the appropriate Review Management Organization (RMO) for this project.
4. Should you have any questions or concerns regarding this review plan, please contact the District Section 408 Coordinator, Robert Phillips, P.E. at 215-656-6682 or [robert.w.phillips@usace.army.mil](mailto:robert.w.phillips@usace.army.mil).

  
MICHAEL A. BLISS  
LTC, EN  
Commanding

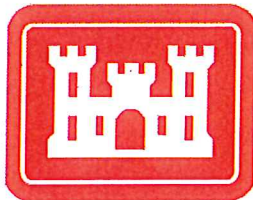
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**Review Plan  
U.S. Army Corps of Engineers  
North Atlantic Division  
Philadelphia District**

**Blue Marsh Dam  
Western Berks Water Supply Hookup  
Pursuant to 33 USC § 408**

**MSC Approval Date: Pending**

**Last Revision Date: 05 August 2016**



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## *Philadelphia District*

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## **1. Purpose and Requirements**

### **a. Purpose**

This Review Plan is intended to ensure a quality-engineering project is developed by the Corps of Engineers. This Review Plan has been developed for the Blue Marsh Water Supply Hookup. This Review Plan was prepared in accordance with EC 1165-2-214, "Civil Works Review Policy". The Review Plan shall layout a value added process that assures the correctness of the information shown. The purpose of the Review Plan is to determine if work proposed by Western Berks Water Authority (WBWA) and the Delaware River Basin Commission (DRBC) is harmful or detrimental to the USACE project, or injurious to the public interest.

### **b. Guidance and Policy References**

- EC 1165-2-214, Civil Works Review Policy, 15 December 2012
- ER 1110-1-12, Quality Management, 31 Mar 2011
- ER 1110-2-1156, Safety of Dams – Policy and Procedure, 31 Mar 2014
- EC 1165-2-216, Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408, 31 July 2014
- ER 1105-2-100, Planning Guidance Notebook, 22 April 2000

### **c. Requirements**

This Review Plan has been developed specifically for the Blue Marsh Dam Water Supply Line Hookup to ensure a quality-engineering evaluation. The Review Plan was developed in accordance with Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408 (EC 1165-2-216), dated 31 July 2014 and Civil Works Review Policy (EC 1165-2-214) dated 15 December 2012.

EC 1165-2-216 provides guidance for processing requests by private, public and other federal entities to temporarily occupy or use, any US Army Corps of Engineers (USACE) federally authorized civil works project pursuant to 33 USC 408. Proposed projects must not be injurious to the public interest or affect the USACE project's ability to meet its authorized purpose.

EC 1165-2-214, establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: Requestor Quality Control/Quality Assurance (RQC), Agency Technical



Review (ATR), and Policy and Legal Compliance Review. The RP identifies the most important skill sets needed in the reviews and the objective of the review and the specific advice sought, thus setting the appropriate scale and scope of review for the individual project. This Review Plan should be provided to RQC, and ATR Review Management Organization

The North Atlantic Division (NAD) is the review management organization (RMO) for this project. Contents of this review plan have been coordinated with the RMC and the North Atlantic Division, the Major Subordinate Command (MSC). In-Progress Review (IPR) team meetings with the RMC, NAD, and HQ will be scheduled on an “as needed” basis to discuss programmatic, policy, and technical matters. The Philadelphia District Section 408 Coordinator will be the POC for vertical team coordination. This review plan will be updated for each new project phase. Philadelphia District will assist the RMC with management of the ATR review and development of the draft ATR “charges”.

## **2. Project Description and Information**

### **a. Project Description**

Blue Marsh Dam is a high hazard potential dam located on Tulpehocken Creek in Berks County, Pennsylvania approximately 6 miles northwest of the City of Reading. The dam consists of an embankment, a controlled outlet works, an uncontrolled channel spillway, and three (3) saddle dikes. The embankment is a rolled earth-rock embankment consisting of a central impervious core with adjacent random fill zones, a downstream drainage zone and blanket, and outer zones of rock fill. The dam has a top length of approximately 1,775 feet and a maximum height of about 98 feet. The embankment has a crest width of 30 feet at elevation 332 feet. Upstream slope protection consists of an 18-inch thick riprap layer placed above elevation 272 feet. The average width at the base of the embankment is approximately 635 feet. The outlet works consists of an intake approach channel, intake control tower and service bridge, conduit, stilling basin, and outlet exit channel. The spillway is an ungated, excavated, chute-type channel situated along the reservoir rim south of the dam. The control section for the spillway is essentially a broadcrested weir consisting of a concrete slab 300 feet wide by 30 feet long, which extends up the side slopes from the crest elevation of 307 feet to 323 feet. The spillway outlet channel is designed to discharge through a natural saddle into the Tulpehocken Creek approximately 1,000 feet downstream from the toe of the dam. A gated 48-inch water supply line was constructed with the dam, with the outlet of the supply line along the right side of the dam outlet works. The water supply line has been tested and operated by USACE, however, has never been hooked-up for use. Attachment 1 is a plan view of the project and features.

## **b. Project Purpose**

The authorized project purposes include flood control, water supply, low flow augmentation, recreation, and water quality. The Delaware River Basin Commission (DRBC) is an Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) partner. Per the contract dated 14 May 1971, as amended, water supply storage is allocated to the DRBC to help ensure that the freshwater-saltwater interface remains downstream of all freshwater intakes along the Delaware River. The DRBC provides cost-sharing per the provisions of the contract. While the reservoir could also provide a dependable water supply for the Western Berks Water Authority (WBWA), its water supply withdrawal system is not currently utilized.

## **c. Proposed Modification**

As noted in the project description, a gated 48-inch water supply line was constructed with the dam. The pipe is steel, encapsulated in concrete and located to the right of the discharge conduit. The water supply conduit alignment diverges from outlet works centerline near the outlet end approximately 250 feet downstream and is located on right bench (approximately elevation 240 feet) between 260 and 400 feet downstream.

WBWA is requesting to join a 24-inch ductile iron pipe to the existing 48-inch water supply line (via a blind flange) and pipe the water approximately 4,000 feet to the WBWA water treatment plant (see Attachment 1 for approximate site plan and Blue Marsh Dam project features). Previously, WBWA received their water from Tulpehocken Creek, downstream of Blue Marsh Dam; however, WBWA believes that higher quality water can be obtained through utilizing the water directly from Blue Marsh Reservoir.

From the existing 48-inch water supply line, the 24-inch WBWA pipe will be routed south away from the dam and up the right abutment. WBWA's initial plan was to cross the rock cut spillway, however, after further discussion with WBWA, the proposed alignment of the pipeline was moved outside of the spillway and adjacent to Tulpehocken Creek. WBWA's current plan is to open-pit excavate between 8 and 30 feet to depth for the pipe to be laid. To achieve this, WBWA plans to utilize rock-ripping machines. Attachment 2 provides WBWA's proposed site plan and pipe alignment from the 48-inch water supply line to the water treatment plant.

Risks associated with this modification can be found in Attachment 3.



#### **d. Project Sponsor**

The DRBC is working in conjunction with WBWA as the Project Requestors. The DRBC is the signatory party of the Water Supply agreement at Blue Marsh Lake and therefore all easements and water will be utilized from the DRBC storage.

### **3. Requestor Quality Control (RQC) Requirements**

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo RQC. A RQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements. The project requestor shall manage the RQC. Documentation of RQC activities is required and should be available at the request of the ATR team. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts. Quality Checks include a review of the alternatives considered, schedules, budgets, means and methods of construction, and have lessons learned been considered. RQC is assuring the math and assumptions are correct by having a checker initial each sheet of the computations. Additionally, the PDT is responsible to ensure consistency and effective coordination across all project disciplines during project design and construction management.

### **4. Level of Review Required**

#### **a. District Review Purpose**

The review of all work products will be in accordance with the guidelines established within this review plan. The purpose of this review is to ensure the proper application of established criteria, regulations, laws, codes, principles and professional practices.

For the purposes of Section 408, the ATR team will make the following determinations:

- 1) Impair the Usefulness of the Project Determination. The objective of this determination is to ensure that the proposed alteration will not limit the ability of the project to function as authorized and will not compromise or change any authorized project conditions, purposes or outputs.
- 2) Injurious to the Public Interest Determination. Proposed alterations will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. The decision whether to approve an alteration will

be determined by the consideration of whether benefits are commensurate with risks.

- 3) Legal and Policy Compliance Determination. A determination will be made as to whether the proposed alteration meets all legal and policy requirements.
- 4) Verify Appropriate Decision Level. Verify whether or not HQUSACE review and decision is required.

## **b. Requirements**

The review of this alteration request shall include a District-led Agency Technical Review (ATR), reference paragraph 7.c.(4) in EC 1165-2-216. The review of all work products will be in accordance with the guidelines established within this review plan.

Agency Technical Review (ATR) is required to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214, and the Quality Management of NAD. The management of ATR review will be conducted by NAP and review will be concurrent with NAP and the RMC. The RMC ATR team will be assigned by the RMC and comprised of senior USACE personnel, preferably recognized subject matter experts with the appropriate technical expertise such as regional technical specialists (RTS), and may be supplemented by outside experts as appropriate. The RMC will issue a charge to reviewers to structure and guide the ATR team.

The Blue Marsh Dam Water Supply Hookup requires several fields of expertise for ATR review activities. These fields include geotechnical engineering, geology, hydraulic engineering, and hydrology. Consistency checks between all engineering concerns/documents will be included in all reviews by the ATR and will be a responsibility of the review members. The ATR will also examine relevant RQC records and provide written comment on the adequacy of the RQC effort. During project development, seamless review by the ATR team is encouraged for all aspects of the project. The PDT members will initiate seamless reviews at appropriate times in order to reach a common understanding with their ATR counterparts, thereby minimizing significant comments/impacts during final ATR.

ATR will be managed by NAP and include District Personnel as well as a qualified team from outside NAP that is not involved in the day-to-day production of the project/product as assigned by the RMC. There will be appropriate consultation throughout the review with the allied Communities of Practice (CoPs), other relevant CXs, and other relevant offices to ensure that a review team with appropriate expertise is assembled and a cohesive and comprehensive review is accomplished. The RMC, Division, and PDT, Dam Safety Modification Mandatory Center of Expertise (DSMMCX) located in the Huntington District as necessary.



ATR efforts will include the necessary expertise to address compliance with applicable published policy. When policy and/or legal concerns arise during ATR efforts that are not readily and mutually resolved by the PDT, and the reviewers, the district will seek issue resolution support from NAD, RMC, DSMMCX and HQUSACE in accordance with the procedures outlined in ER 1105-2-100, or other appropriate guidance.

ATR will be certified when all ATR comments are either resolved or referred to RMC for resolution and the ATR documentation is complete. Attachment 4 details the NAP ATR Team.

### **c. Documentation of ATR**

DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments will be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

### **d. Comment Resolution**

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist. The ATR documentation in DrChecks includes the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

#### **e. Products to Undergo ATR**

Products to be reviewed include at a minimum, 60% plans and specifications and any other relevant design information provided by the DRBC and WBWA. Satisfactory information must be submitted to determine that the proposed modification does not impair the usefulness of the project or be harmful to the public interest.

#### **f. Required ATR Team Expertise and Requirements**

ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The RMC will provide a list of personnel required to complete the RMC ATR Review.

The following provides an estimate of the disciplines and experience required for the ATR of the Blue Marsh Water Supply Hookup. The ATR team will be chosen based on each individual's qualifications and experience with similar projects.

**ATR Lead** - The ATR lead is a senior professional with extensive experience in preparing Civil Works documents and conducting ATRs. The lead has the necessary skills and experience to lead a virtual team through the ATR process.

**Geotechnical Engineer** - shall have experience in the field of geotechnical engineering, analysis, design, and construction of earthen dams. The geotechnical engineer shall have experience in subsurface investigations, rock and soil mechanics, internal erosion (seepage and piping), slope stability evaluations, erosion protection design, and earthwork construction. The geotechnical engineer shall have knowledge and experience in the forensic investigation of seepage, settlement, stability, and deformation problems associated with high head dams and appurtenances constructed on rock and soil foundations. The geotechnical engineer shall be experienced horizontal drilling methods, deep open trenching, shoring and rock blasting.

**Engineering Geologist** - shall have experience in assessing internal erosion (seepage and piping) beneath earthen dams constructed on bedrock formations. The engineering geologist shall be familiar with identification of geological hazards, exploration techniques, field and laboratory testing, and instrumentation. The engineering geologist shall be experienced horizontal drilling methods, deep open trenching, shoring and rock blasting.

**Hydraulic Engineer** - shall have experience in the analysis and design of hydraulic structures related to dams including the design of hydraulic structures (e. g., spillways, outlet works, and stilling basins). The hydraulic engineer shall be knowledgeable and experienced with the routing of inflow hydrographs through multipurpose flood control reservoirs utilizing multiple discharge devices, Corps application of risk and uncertainty analyses in flood damage reduction studies, and standard Corps hydrologic and



hydraulic computer models used in drawdown studies, dam break inundation studies, hydrologic modeling and analysis for dam safety investigations. The hydraulic engineer shall also have knowledge in modeling erosion and scour.

#### **g. Completion and Certification of the ATR**

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- (1) Identify the document(s) reviewed and the purpose of the review;
- (2) Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- (3) Include the charge to the reviewers;
- (4) Describe the nature of their review and their findings and conclusions;
- (5) Identify and summarize each unresolved issue (if any); and
- (6) Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR lead will prepare a completion of ATR and Certification of ATR. It will certify that the issues raised by the ATR team have been resolved (or elevated to the vertical team). The completion and certification should be completed based on the work reviewed to date for the project.

### **5. Independent External Peer Review (IEPR)/Safety Assurance Review (SAR)**

#### **a. Requirements**

IEPR may be required for implementation documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE



in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted

Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

#### **b. Decision on Type II IEPR**

A Type II IEPR will not be performed during the Implementation Phase on the design and construction activities associated with the following features: plans, supporting data, and analyses. A risk-informed decision was made as to whether IEPR is appropriate based on the factors to consider for conducting a Type II IEPR review that are outlined in EC 1165-2-214, Appendix E, Section 2 (a) thru (c).

A risk informed decision was made that this project does not pose a significant threat to human life (public safety) since the pipeline alignment was moved outside of the spillway. Attachment 3 provides a supporting risk analysis of the decision.

#### **c. Policy and Legal Compliance Review**

All implementation documents will be reviewed throughout the project for their compliance with law and policy. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies.

#### **d. Division Certification**

Once the ATR is completed, the project findings will be submitted to NAD for approval. Upon receipt of the district prepared Summary of Findings for MSC review and decision, the division will review the submittal and provide comments to the district within 30 days unless the division notifies the district that additional review time is needed. The division will review the Summary of Findings for policy compliance and legal sufficiency; quality assurance and completeness; identification of conflicts with ongoing studies. The timeline required to address comments may vary depending on significance of the division comments. If the division decides the district may approve the Section 408, that rationale should be documented as part of the administrative record.

The Division Commander will either deny the Section 408 request or recommend approval. If the division denies the request, this decision will be transmitted to the district.

## **6. Review Schedule and Costs**

### **a. Schedule of Reviews**

PROJECT PHASE/SUBMITTAL	REVIEW START DATE	REVIEW END DATE
RQC Review 60%	TBD	TBD
NAP ATR Review	TBD	TBD
RMC ATR Review	Concurrent with NAP ATR	Concurrent with NAP ATR
NAD Certification	30 Days after ATR	

### **b. ATR Schedule and Cost**

The preliminary review schedule is listed in the provided in the table in paragraph a of this section. The cost for the ATR is approximately \$30,000.

## **7. Public Participation of Review Plan**

As required by EC 1165-2-214, the approved Review Plan will be posted on the District public website:

<http://www.nap.usace.army.mil/Missions/CivilWorksReviewPlans.aspx>.

This is not a formal comment period and there is no set timeframe for the opportunity for public comment. If and when comments are received, the PDT will consider them and decide if revisions to the review plan are necessary. This engagement will ensure that the peer review approach is responsive to the wide array of stakeholders and customers, both within and outside the federal government.

## **8. Review Plan Approval and Updates**

The MSC for this is the North Atlantic Division. The MSC Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving the Philadelphia District, MSC, and RMC) as to the appropriate scope and level of review for the study and endorsement by the RMC. The Review Plan is a living document and may change as the study progresses, the district is responsible for

keeping the Review Plan up to date. Minor changes to the review plan since the last MSC. Commander approval will be documented in an Attachment to this plan. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-endorsed by the RMC and re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

#### **9. Review Plan Points of Contact**

<b>NAME/TITLE</b>	<b>ORGANIZATION</b>	<b>EMAIL/PHONE</b>
Robert Phillips, Section 408 Coordinator	CENAP-EC-EG	robert.w.phillips@usace.army.mil 215-656-6682
John Clarkson, Senior Reviewer	CEIWR-RMC	john.d.clarkson@usace.army.mil 304-399-5217



## ATTACHMENT 5: COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Blue Marsh Water Supply Hookup for Blue Marsh Dam, Berks County, PA. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214 and EC 1165-2-216. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the Requestor Quality Control (RQC) documentation and made the determination that the RQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks<sup>sm</sup>.

SIGNATURE

\_\_\_\_\_  
Daniel Kelly, P.E.  
ATR Team Leader  
CENAP-EC-EG

\_\_\_\_\_  
Date

SIGNATURE

\_\_\_\_\_  
Robert Phillips, P.E.  
Section 408 Coordinator  
CENAP-EC-EG

\_\_\_\_\_  
Date

SIGNATURE

\_\_\_\_\_  
TBD  
Reviewer  
CENAD-

\_\_\_\_\_  
Date

### CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.* As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

\_\_\_\_\_  
Peter Tranchik, P.E.  
Chief, Engineering and Construction Division  
Dam Safety Officer  
CENAP-EC

\_\_\_\_\_  
Date



**ATTACHMENT 6: REVIEW PLAN REVISIONS**

Revision Date	Description of Change	Page / Paragraph Number