



OFFICE OF  
**INSPECTOR GENERAL**  
U.S. DEPARTMENT OF THE INTERIOR

# **BUREAU OF INDIAN AFFAIRS AND U.S. FISH AND WILDLIFE SERVICE SAFETY OF DAMS: EMERGENCY PREPAREDNESS**



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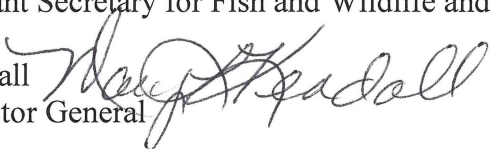
SEP 24 2013

Memorandum

To: Rhea Suh  
Assistant Secretary for Policy, Management and Budget

Kevin K. Washburn  
Assistant Secretary for Indian Affairs

Rachel Jacobson  
Acting Assistant Secretary for Fish and Wildlife and Parks

From: Mary L. Kendall   
Deputy Inspector General

Subject: Final Evaluation Report – Bureau of Indian Affairs and U.S. Fish and Wildlife  
Service Safety of Dams: Emergency Preparedness  
Report No. WR-EV-MOA-0002-2013

This memorandum transmits our evaluation report of the Bureau of Indian Affairs' (BIA) and U.S. Fish and Wildlife Service's (FWS) emergency preparedness at their high-hazard dams.

This is the last of our three evaluations on dam safety and emergency preparedness. We identified several areas in which BIA and FWS can improve their emergency management. BIA has an opportunity to update its dam hazard classifications, fully develop its early warning systems, and update the communication directories at its National Monitoring Center. In addition, BIA has had some challenges in documenting its emergency action plan exercises. We learned that FWS has no policy requiring after-action reports. Finally, both FWS and BIA could improve their verification of emergency equipment and materials mentioned in their emergency action plans. We include 13 recommendations in our report that, if implemented, will help to improve emergency action planning at the two bureaus.

Based on BIA's August 29, 2013 response to the draft report and FWS' August 6, 2013 response to the draft report, we consider all 13 recommendations to be resolved but not implemented. We will refer these recommendations to the Office of Policy, Management and Budget to track implementation.

The legislation creating the Office of Inspector General requires that we report to Congress semiannually on all audit reports issued, actions taken to implement our recommendations, and recommendations that have not been implemented.

A response to this report is not required. If you have any questions regarding this memorandum or the subject report, please do not hesitate to contact me at 202-208-5745.

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## Results in Brief

This is the Office of Inspector General's third evaluation report on the U.S. Department of the Interior dam safety and emergency preparedness. Last year, we issued two evaluation reports. Our first report focused on the Bureau of Reclamation's dam safety, and the second focused on the National Park Service's, Bureau of Land Management's, and Office of Surface Mining Reclamation and Enforcement's dam safety.<sup>1</sup> In this most recent evaluation, we reviewed the Bureau of Indian Affairs' (BIA) and U.S. Fish and Wildlife Service's (FWS) dam safety and emergency preparedness. We found that many of the issues we identified in the first two evaluations, such as not routinely exercising emergency action plans (EAPs), not documenting those exercises, and not maintaining a listing of materials and equipment in those EAPs, also exist for BIA's dam safety program.

In addition to the recurring issues mentioned above, this review identified concerns unique to BIA. Specifically, due to conflicting rules, BIA is the only DOI bureau with dams that do not follow the Federal Emergency Management Agency (FEMA) guidelines for dam hazard classification.<sup>2</sup> In addition, not all BIA early warning systems are completely developed or fully functioning. Further, communication directories at BIA's National Monitoring Center are outdated.

An area we identified as needing improvement for both FWS and BIA is the verification of equipment and materials mentioned in the EAP. While we acknowledge FWS and BIA have no requirement for documenting this verification, it is an important component of emergency preparedness.

FWS does not have a formal written policy requiring it to prepare after-action reports. FWS does have EAPs in place for the high-hazard dams we reviewed and routinely exercises them. In addition, FWS documents the exercises in after-action reports.

In April 2013, we issued Notices of Potential Findings and Recommendations to BIA and FWS that outlined the findings in this report. BIA and FWS are committed to the continual improvement of existing safety management procedures. Agreeing that the areas we identified should help improve BIA's and FWS' existing dams safety programs, BIA and FWS generally concurred with our findings and recommendations. They have begun addressing the issues identified in our review.

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<sup>1</sup> "Bureau of Reclamation's Safety of Dams: Emergency Preparedness," WR-EV-BOR-0007-2011. February 2012.

"Bureau of Land Management, National Park Service, and Office of Surface Mining Reclamation and Enforcement's Safety of Dams: Emergency Preparedness," WR-EV-MOA-0015-2011. December 2012.

<sup>2</sup> FEMA's "Federal Guidelines for Dam Safety," April 2004.

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# Introduction

## Objective

Our objective was to review the emergency preparedness of the U.S. Department of the Interior's (DOI) Bureau of Indian Affairs' (BIA) and U.S. Fish and Wildlife Service's (FWS) high-hazard dams. Specifically, we evaluated their emergency action plans (EAPs) to determine if the plans were in place, reviewed, updated, and exercised appropriately, and what, if any, problems exist in the bureaus' ability to respond to a disaster. See Appendix 1 for the scope and methodology of this report and Appendix 2 for prior audit coverage.

## Background

DOI protects and manages 500 million acres, or about 20 percent, of the Nation's land. This responsibility includes managing and ensuring dam safety for the more than 2,600 dams owned by DOI.

BIA has the largest inventory of dams in DOI. Out of DOI's total dam inventory of 2,600 dams, BIA is responsible for about 900. A great majority of BIA's 900 dams, however, are classified as low hazard. BIA is responsible for 135 high- and significant-hazard dams, which are spread through 8 regions and located on 41 reservations. BIA dams are primarily earth embankment dams with an average height of 44 feet.

FWS has 251 dams, of which 14 are high-hazard dams. Most of these dams are also earth embankment dams and range in height from 10 to 114 feet.

## Emergency Action Plans

EAPs are formal, living documents. They identify potential emergency conditions at a dam and specify actions for dam operating personnel to follow during emergencies or unusual occurrences. The purpose of an EAP is to minimize the loss of life and property damage and provide proper notification to downstream authorities.

## BIA Early Warning Systems and National Monitoring Center

In addition to EAPs, BIA's emergency management of high- and significant-hazard dams includes the early warning systems (EWSs) at some of its dams, which are overseen by the National Monitoring Center (NMC) in Ronan, MT. Throughout the 1980s, BIA did not fulfill its responsibilities under its Safety of Dams Program to address identified or potential dam safety deficiencies in a timely manner. As a result of prior Office of Inspector General (OIG) reports issued in 1989 and 1995, BIA agreed to install EWSs as an inexpensive alternative to more costly dam rehabilitations.<sup>3</sup> Congress provided the funding for

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<sup>3</sup> DOI-OIG Audit Reports, "Dam Safety Program, Bureau of Indian Affairs," 89-108. September 1989, and "Safety of Dams Program, Bureau of Indian Affairs," 95-I-422. February 1995.

additional staff for BIA's dam safety activities. Using EWSs, NMC can remotely monitor, on a 24-hour basis, the climatic and hydrologic conditions surrounding a dam.

An EWS consists of—

- a method for detecting flood events;
- an informed decisionmaking process, which includes predetermined criteria for determining the level of emergency response;
- a means for communicating warnings between operating personnel and local public safety officials; and
- a means for local public safety officials to effectively communicate the warnings to the public and carry out a successful evacuation of the population at risk.

EWS equipment transmits data to NMC. The data is checked against predetermined criteria to determine if dam conditions pose a serious threat to residents downstream. If a threat exists, NMC personnel will notify the proper authorities to initiate actions prescribed in the appropriate EAP.

### **Criteria**

The Indian Dams Safety Act of 1994 directs the Secretary of the Interior to establish a dam safety maintenance and repair program within BIA, to monitor the condition of all dams on Indian lands, and to maintain them in a satisfactory condition on a long-term basis.

The Federal Emergency Management Agency's (FEMA) "Federal Guidelines for Dam Safety" (FGDS) and DOI's "Departmental Manual" require that bureaus' dam safety programs prepare, review, and update EAPs for high-hazard dams. "Departmental Manual" § 753 specifies that the EAP reviews and updates be performed at least annually. The annual review and update should make any changes to notification of personnel, procedures, and telephone numbers. In addition, "Departmental Manual" § 753 requires that EAPs be tested every 5 years to ensure that the plans will function satisfactorily in the event of an actual emergency.

BIA and FWS have generally incorporated the FGDS and "Departmental Manual" § 753 emergency action planning requirements in the "Indian Affairs Manual" § 55, BIA's "Safety of Dams Handbook," and "Fish and Wildlife Service Engineering and Construction" § 361.

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# Findings

## BIA

### Dam Hazard Classification

BIA is the only DOI bureau with dams that does not follow the FGDS for classification of high- and significant-hazard dams. This inconsistency creates confusion when defining a high- and significant-hazard dam. For example, the FGDS defines a dam as high hazard when its failure puts one or more lives at risk and as significant hazard when its failure risks no lives but may cause substantial economic damages. The Indian Dams Safety Act of 1994, however, states that a dam is high hazard when its failure puts six or more lives at risk or may cause extensive property damage, and a dam is significant hazard when its failure puts one to six lives at risk or may cause substantial property damage. Even though BIA is required to follow the Act, it is possible for BIA to revise its dam classification policy without conflicting with the Act's requirements.

### Recommendation

1. Update BIA policies to align with the FGDS dam hazard classification.

### Exercising EAPs and Documenting EAP Exercises and Dam Incidents

We reviewed 28 of BIA's dams. One dam is not current on its EAP exercises, and 12 dams do not have EAP completion reports or dam incident reports. Fifteen dams are current on their EAP exercises and exercise completion reports were prepared for these exercises, but the recommendations resulting from the exercises are not being tracked for implementation.

One of BIA's dams has not had its EAP exercised since May 2009. BIA's Safety of Dams Program Handbook requires BIA to exercise the EAPs for each high- and significant-hazard dam every 3 years. The handbook also requires that BIA document these activities in an exercise completion report, which other DOI bureaus call an after-action report (AAR), and track any recommendations from the EAP exercise.

Of the 28 dams we reviewed, 12 dams did not have current EAP exercise completion reports or dam incident reports because they were never prepared, they were late in being prepared, or BIA could not find them. Specifically, five dams did not have an exercise completion report prepared after their EAP exercise. We were informed that one of these five dams had an exercise in 2010, but the exercise completion report has not been prepared. Since exercise completion reports should be prepared immediately following an exercise, the exercise report for this dam is about 3 years late.



In situations when an actual dam incident results in the activation of an EAP, BIA will sometimes count these events as meeting its EAP exercise requirement. The Indian Affairs Manual states that following an incident or emergency event, an incident report will be prepared by the regional safety of dams officer and submitted to the regional director and BIA's safety of dams officer. We were informed that six dams activated their EAP in 2010 because of incidents. Dam safety personnel could not provide us with the incident response reports for these events, however, because the reports either were never prepared or could not be found. Likewise, staff told us that an exercise completion report for a 2009 EAP exercise for one of the dams could not be found. Because exercise completion reports and dam incident reports were unavailable, we could not determine if the 12 dams had met BIA's EAP exercise requirement.

Of the 28 dams we reviewed, 15 dams are current on their EAP exercises, and exercise completion reports were prepared for the exercises. We noted that the recommendations resulting from the exercises, however, were not tracked for implementation.

#### **Recommendations**

2. Comply with requirements to exercise the EAPs for high- and significant-hazard dams.
3. Comply with requirements to prepare an exercise completion report after an EAP exercise or dam incident that includes a planned course of action to implement and track the recommended corrective actions.

#### **Documenting EAP Annual Reviews**

In addition to regular exercises, FEMA's guidelines state that dam safety personnel should conduct a periodic review of the overall EAP to assess its workability and efficiency. The periodic review should occur on at least an annual basis. BIA's "Safety of Dams Program Handbook" also requires an annual communication drill or, at a minimum, an annual review and update of the phone numbers in each high- and significant-hazard dam's EAP.<sup>4</sup>

Although BIA policies do not specifically state that documentation of the annual EAP and communications directory reviews is required, we believe consistent documentation is essential to show that annual EAP reviews and communication drills are being performed as required. As stated in the FGDS:

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<sup>4</sup> BIA's "Safety of Dams Program Handbook" states that a procedure should be established for the annual review and revision of EAPs. The annual review and update of the phone numbers in each EAP appears to be the extent of the written procedure for the annual review and revision of the EAPs.

After the EAP has been developed, approved, and distributed, the job is not done. Without periodic maintenance, the EAP will become outdated, lose its effectiveness, and no longer be workable. . . . If the plan is not updated, the information contained in it may become outdated and useless.

#### **Recommendation**

4. Establish consistent documentation for annual EAP reviews and communication drills.

#### **Inventories for EAPs and Exercise Completion Reports**

The BIA Branch for Dam Safety, Security, and Emergency Management does not have a complete inventory of BIA's EAPs and exercise completion reports for the high- and significant-hazard dams. Of the 28 dams we reviewed, BIA was unable to provide one EAP, and three EAPs are still in draft. In addition, BIA officials could not locate one exercise completion report.

We understand that the tribes, as well as the Bureau of Reclamation (USBR), have prepared and maintained these documents in the past. It is critical, however, for BIA to have a complete collection of its EAPs and exercise completion reports so that they are prepared in an emergency event and have documentation of past EAP exercises to refer to for future EAP exercises.

#### **Recommendations**

5. Establish a timeline to finalize all the EAPs currently in draft.
6. Maintain an inventory for all high- and significant-hazard dams' EAPs and exercise completion reports.

#### **Documenting Available Emergency Equipment in EAPs**

The FGDS states that identifying preparedness actions to assist emergency response is basic to an EAP. One such preparedness action is to make available equipment, labor, and materials for emergencies.

We noted that 10 of the 28 EAPs we reviewed did not include a list of available materials and equipment to respond to an emergency event. The EAPs that did include such a listing did not have a process to verify the location, existence, and operability of the equipment and materials. An annual verification process performed and documented as a part of the annual EAP review ensures the availability and readiness of these resources.

This verification process would be similar to the required inspections that the Bureau of Ocean Energy Management performs on all equipment listed in an operator's oil spill response plan. For third-party equipment listed in an oil spill response plan, operators are accountable for ensuring that the companies under contract have the required equipment and that the equipment is operational. The agency selectively inspects the contractors annually to ensure operator compliance.<sup>5</sup>

### Recommendation

7. Ensure EAPs for all high- and significant-hazard dams have a listing of materials and equipment to the extent possible, and document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews.

### Early Warning Systems

Out of BIA's 135 high- and significant-hazard dams, 112 have an EWS. A BIA official told us that BIA has a goal to have an EWS at each high- and significant-hazard dam, and that it has not yet met this goal. Determining if EWSs are needed and feasible at all high- and significant-hazard dams would be an important first step for BIA to achieve its goal.

The EAPs for eight of the high- and significant-hazard dams with EWSs do not mention the fact that the dam has an EWS. All of the EWS designs for BIA dams are site specific, so it is important to incorporate the EWS information into each dam's EAP. The information can then be used when the EAP is activated. The BIA's "Safety of Dams Program Handbook" states: "For the EWS to be viable, it must be incorporated into the EAP and be exercised on a regular basis."

BIA does not have a policy requiring a review or update of the communication directories at NMC and the predetermined EWS criteria used to determine level of response at each dam site. It is critical to regularly review and update these criteria because the EWS plays an important role in BIA's Safety of Dams Program. These predetermined criteria are the rules that determine when an alarm is set off at NMC. It is also important to review and update the communication directories at NMC on an annual basis, similar to the requirement to review and update the communication directories in each dam's EAP annually.

USBR has provided technical support for BIA's EWS program since the mid-1990s. One of the goals outlined in the interagency agreement between USBR and BIA is to have fully functional EWSs in operation 24 hours a day, 7 days a week.

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<sup>5</sup> Office of Inspector General, U.S. Department of the Interior, "A New Horizon: Looking to the Future of the Bureau of Ocean Energy Management, Regulation and Enforcement," CR-EV-MMS-0015-2010. December 2010.

The interagency agreement specifies that USBR, BIA's NMC, and EAP coordinators implement and update NMC's decision criteria.

The decision criteria are critical to NMC for notifying emergency managers of potentially hazardous incidents. An EWS, for instance, must have decision criteria to be considered fully functional. Of the 112 dams with EWS monitoring, only 95 have EWSs that are considered fully functional. For example, the Navajo reservation has 14 dams with EWSs, but only 4 are considered fully functional because BIA and USBR need to establish decision criteria. At the time of our review, the EWSs for 10 Navajo dams were sending data to NMC; without established decision criteria, however, no alarms were being received by the NMC.

### **Recommendations**

8. Determine if EWSs are needed and feasible at all high- and significant-hazard dams. If BIA determines that any of the remaining dams need an EWS and it is feasible, BIA should develop and initiate an implementation plan.
9. Incorporate EWS information into the EAPs for those dams with an EWS.
10. Establish a policy to periodically review and update the established EWS decision criteria for each dam site and the communication directories at NMC, and document those reviews.
11. Work with USBR to make all existing EWSs fully functional.

## **FWS**

### **Documenting Available Emergency Equipment in EAPs**

There is no documentation verifying the location, existence, and operability of equipment and materials listed as available in FWS' EAPs. The FGDS states that identifying preparedness actions to assist emergency response is a basic element that should be included in an EAP. One such preparedness action is to make available the equipment, labor, and materials for emergencies.

We noted that all 10 of the EAPs we reviewed included a list of materials and equipment available for emergencies. Although these listings were included, there was no process to verify the location, existence, and operability of the equipment and materials. Completing an annual verification process as a part of the annual EAP review ensures the availability and readiness of these resources.

### Recommendation

12. Document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews.

### After-action Reports

While FWS is in the practice of preparing AARs after each EAP exercise, this practice is not a formal FWS policy. FWS does include preparation of an AAR in the scope of work in the architectural and engineering consultant contracts for EAP exercising. Although we commend FWS for including the requirement for an AAR in its architectural and engineering contracts, formalizing the requirement in a written policy ensures this practice will continue.

FWS may find USBR's directives and standards useful in creating its own AAR procedures. USBR's directives and standards require each exercise to be documented in an AAR containing identified strengths, deficiencies, and recommended corrective actions, including a planned course of action to implement and track the recommended actions.

### Recommendation

13. Create a written policy that requires the preparation and issuance of an AAR after each incident or exercise and the inclusion of a planned course of action to implement and track the recommended corrective actions in the AAR to formalize its existing practice.

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# Conclusion and Recommendations

## Conclusion

This evaluation of BIA's and FWS' safety of dams and emergency preparedness concludes our recent efforts reviewing DOI bureaus with dams. Many of the issues discussed in this report were in our prior evaluations on USBR's, the Bureau of Land Management's, the National Park Service's, and the Office of Surface Mining Reclamation and Enforcement's dams. In addition, four of the recommendations we make in this report are similar to USBR's recommendations in its July 2008 "U.S. Department of the Interior Independent Oversight Review Report."<sup>6</sup>

In April 2013, we issued BIA and FWS Notices of Potential Findings and Recommendations that outlined the findings in this report. BIA and FWS generally concurred with our findings and recommendations; they have begun addressing the issues identified in our review.

Both BIA and FWS are committed to the continual improvement of existing emergency management procedures and we commend them for their dedication and ongoing efforts.

## Recommendations

BIA and FWS responded to our draft on August 29, 2013, and August 6, 2013, respectively (see Appendices 3 and 4). According to their responses, both bureaus concur with our recommendations. Based on BIA's and FWS' responses, we consider all recommendations resolved but not implemented (see Appendix 5). We are referring the recommendations to the Assistant Secretary for Policy, Management and Budget for tracking.

### BIA

We recommend that BIA:

1. Update BIA policies to align with the FGDS dam hazard classification.

**BIA Response:** BIA concurs with the recommendation. The BIA Dam Safety Security and Emergency Branch is currently updating the "Dam Safety Security and Emergency Management" (DSSEM) handbook and preparing draft language for revision of the Indian Dams Safety Act of 1994 to be consistent with FEMA guidelines and other DOI agencies. The BIA dam safety and security officer will implement the recommendation by February 15, 2014.

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<sup>6</sup> "U.S. Department of the Interior 2008 Independent Oversight Review Report: Bureau of Indian Affairs Safety of Dams Program and Dam Security," July 2008.

2. Comply with requirements to exercise the EAPs for high- and significant-hazard dams.

**BIA Response:** BIA concurs with the recommendation. BIA's revised DSSEM handbook will require BIA to exercise its EAPs every 5 years. This revision is consistent with the FEMA guidelines. The BIA emergency management coordinator will implement the recommendation by February 15, 2014.

3. Comply with requirements to prepare an exercise completion report after an EAP exercise or dam incident that includes a planned course of action to implement and track the recommended corrective actions.

**BIA Response:** BIA concurs with the recommendation. The revised period for EAP exercising and reporting will improve DSSEM program resource management, efficiency, and effectiveness. BIA will include the requirement for exercise completion reports and identification of actions in the revised DSSEM handbook. A tracking system will be developed and maintained by the emergency management coordinator. The BIA emergency management coordinator will implement the recommendation by February 15, 2014.

4. Establish consistent documentation for annual EAP reviews and communication drills.

**BIA Response:** BIA concurs with the recommendation. The requirement for exercise completion reports and identification of actions will be included in the revised DSSEM handbook. The BIA emergency management coordinator will develop and maintain a tracking system. The BIA emergency management coordinator will implement the recommendation by February 15, 2014.

5. Establish a timeline to finalize all the EAPs currently in draft.

**BIA Response:** BIA concurs with the recommendation. The BIA emergency management coordinator will review all current draft EAPs and schedule tabletop exercises. All draft EAPs will be finalized within 60 days of completed tabletop exercises. The BIA emergency management coordinator will implement the recommendation by February 15, 2014.

6. Maintain an inventory for all high- and significant-hazard dams' EAPs and exercise completion reports.

**BIA Response:** BIA concurs with the recommendation. The requirement for an inventory of all high- and significant-hazard dam EAPs and exercise completion reports will be included in the revised DSSEM handbook, and the initial inventory will be completed. The BIA

emergency management coordinator will implement the recommendation by February 15, 2014.

7. Ensure EAPs for all high- and significant-hazard dams have a listing of materials and equipment to the extent possible and document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews.

**BIA Response:** BIA concurs with the recommendation. The requirement for listing, updating and verifying materials and equipment will also be included in the revised DSSEM handbook. The BIA emergency management coordinator will develop and maintain a verification tracking system. The BIA emergency management coordinator will implement the recommendation by February 15, 2014.

8. Determine if EWSs are needed and feasible at all high- and significant-hazard dams. If BIA determines that any of the remaining dams need an EWS and if it is feasible, BIA should develop and initiate an implementation plan.

**BIA Response:** BIA concurs with the recommendation. The BIA dam safety officer will review all 136 high and significant hazard dams to determine the need and feasibility of EWSs. A report on the determination and implementation plan will be developed, as necessary, by the target date. The BIA dam safety and security officer will implement the recommendation by February 15, 2014.

9. Incorporate EWS information into the EAPs for those dams with an EWS.

**BIA Response:** BIA concurs with the recommendation. The revised DSSEM handbook will require periodic review of EWS installation and operation and the inclusion of EWS information, including NMC protocols in the updated and revised EAPs for those dams that have EWSs. The BIA emergency management coordinator will develop and maintain a tracking system. The BIA dam safety and security officer will implement the recommendation by February 15, 2014.

10. Establish a policy to periodically review and update the established EWS decision criteria for each dam site and the communication directories at NMC, and document those reviews.

**BIA Response:** BIA concurs with the recommendation. The revised DSSEM handbook will require periodic review of EWS installation and operation and the inclusion of EWS information, including NMC protocols in the updated and revised EAPs for those dams that have EWSs. The BIA emergency management coordinator will develop and



maintain a tracking system. The BIA dam safety and security officer will implement the recommendation by February 15, 2014.

11. Work with USBR to make all existing EWSs fully functional.

**BIA Response:** BIA concurs with the recommendation. The EWS functional decision criteria and equipment installation is performed by USBR under an interagency agreement. For more than a year, BIA has been requesting that the task be completed consistent with the BIA-USBR interagency agreement. If USBR is not responsive and fails to have the required EWSs fully functional (installation and decision criteria completed), then BIA staff in the safety of dams branch will complete the tasks required to have all of the EWSs fully functional. The BIA dam safety and security officer will implement the recommendation by February 15, 2014.

## **FWS**

We recommend that FWS:

12. Document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews.

**FWS Response:** FWS concurs with the recommendation. FWS has updated the annual EAP review verification form to include a specific section to be completed, verifying the location of materials and equipment. The new annual EAP review verification form will be used during the upcoming 2013 EAP annual review starting in the fall of 2013. The FWS dam safety officer will implement the recommendation by October 31, 2013.

13. Create a written policy that requires the preparation and issuance of an AAR after each incident or exercise and the inclusion of a planned course of action to implement and track the recommended corrective actions in the AAR to formalize its existing practice.

**FWS Response:** FWS concurs with the recommendation. FWS will modify Dam Safety Policy 361 FW 1-3 to incorporate the preparation of an AAR for each incident and exercise. The policy amendments will provide for specific details required in the AAR and procedures to track and verify recommended correction actions. The FWS dam safety officer will implement the recommendation by April 30, 2014.

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# Appendix I: Scope and Methodology

## Scope

We conducted our evaluation in accordance with the Quality Standards for Inspection and Evaluation, as put forth by the Council of the Inspectors General on Integrity and Efficiency. We believe that the work performed provides a reasonable basis for our conclusions and recommendations.

Our focus was to review the emergency preparedness of the Bureau of Indian Affairs (BIA) and U.S. Fish and Wildlife Service's (FWS) high-hazard dams. As BIA is required to follow the Indian Dam Safety Act, which has different dam hazard classifications than the other U.S. Department of the Interior (DOI) bureaus, we decided to include BIA's significant-hazard dams into the scope of our review. We reviewed the emergency action plans (EAPs) for the top 20 high-hazard and top 10 significant-hazard dams in BIA. Of the 30 dams selected in our sample, 2 dams did not have EAPs because they were intentionally breached. We reviewed the EAPs for the top 10 high-hazard dams in FWS.

## Methodology

To accomplish the evaluation, we—

- reviewed laws, rules, and regulations and BIA and FWS policies for emergency preparedness as they relate to dam safety;
- reviewed the Bureau of Reclamation's (USBR) 2008 "U.S. Department of the Interior Independent Oversight Review" reports for BIA and FWS;
- obtained high- and significant-hazard dam inventory listings from BIA and a high-hazard dam inventory listing from FWS;
- conducted site visits at BIA dams with early warning systems and BIA's National Monitoring Center;
- interviewed BIA and FWS officials regarding emergency preparedness;
- reviewed EAPs, exercise completion reports, after-action reports, and other documents;
- obtained legal advice from our Office of General Counsel; and
- interviewed a USBR official to discuss BIA's early warning systems.

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## Appendix 2: Prior Audit Coverage

U.S. Department of the Interior (DOI) Office of Inspector General (OIG) and the U.S. Government Accountability Office (GAO) issued reports that were applicable to our evaluation. These reports are listed below.

### OIG

“Bureau of Land Management, National Park Service, and Office of Surface Mining Reclamation and Enforcement’s Safety of Dams: Emergency Preparedness,” WR-EV-MOA-0015-2011. December 2012. We reported that the Office of Surface Mining Reclamation and Enforcement (OSM), Bureau of Land Management (BLM), and National Park Service (NPS) either do not require high-hazard dams within their purview to have emergency action plans (EAPs) or do not ensure that EAPs have been adequately exercised, reviewed, or formalized. The report also found an absence of a uniform approach to monitoring privately owned high-hazard dams located on BLM’s and NPS’ lands, and high-hazard non-Federal dams over which OSM has no direct regulatory jurisdiction.

“Bureau of Reclamation’s Safety of Dams: Emergency Preparedness,” WR-EV-BOR-0007-2011. February 2012. We reported that the Bureau of Reclamation (USBR) requires EAPs at its high- and significant-hazard dams. All of the EAPs reviewed met the Federal Emergency Management Agency guidelines and USBR directives. USBR’s internal management controls need to be strengthened, however, to ensure the success of the EAPs.

“Safety of Dams Program, Bureau of Indian Affairs,” 95-I-422. February 1995. We reported that the Bureau of Indian Affairs (BIA) had significantly improved the management of its dam safety program since its September 1989 audit report. BIA agreed to install early warning systems as an inexpensive alternative to more costly rehabilitation work at or near those dams identified as posing a high or significant hazard to public safety.

“Dam Safety Program, Bureau of Indian Affairs,” 89-108. September 1989. We reported that BIA had not demonstrated an adequate commitment to its dam safety program and had made little progress in correcting documented dam deficiencies.

### GAO

“Indian Programs: BIA and Indian Tribes Are Taking Action to Address Dam Safety Concerns,” GAO/RCED-92-50. February 1992. GAO reported that key factors contributing to BIA’s limited progress during the 1980s in addressing known or potential safety deficiencies associated with dams on Indian reservations had, to a large degree, been addressed. While BIA had not fully corrected safety deficiencies, efforts were under way at many of BIA’s priority dams to correct safety issues.

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## **Appendix 3: Bureau of Indian Affairs’ Response**

The Bureau of Indian Affairs’ response to our draft report follows on page 17.



# United States Department of the Interior

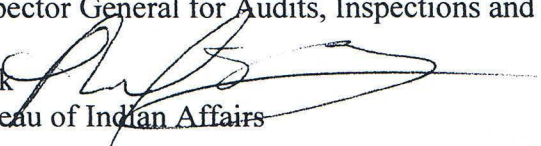
BUREAU OF INDIAN AFFAIRS  
Washington, DC 20240



AUG 29 2013

## Memorandum

To: Kimberly Elmore  
Assistant Inspector General for Audits, Inspections and Evaluations

From: Michael Black   
Director, Bureau of Indian Affairs

Subject: Draft Audit Report – *Evaluation of Safety of Dams – Emergency Preparedness for the Bureau of Indian Affairs and U.S. Fish and Wildlife Service Assignment No. WR-EV-MOA-0002-2013*

Indian Affairs appreciates the opportunity to comment on the U.S. Department of the Interior Office of Inspector General (OIG) Draft Audit Report – *Evaluation of Safety of Dams – Emergency Preparedness for the Bureau of Indian Affairs and U.S. Fish and Wildlife Service* and provides the following response to the report's recommendations.

### OIG Recommendation 1

1. *Bureau of Indian Affairs (BIA) should update BIA policies to align with Federal Emergency Management Agency (FEMA) dam hazard classifications.*

### Response:

Indian Affairs concurs with recommendation No. 1

The BIA Dam Safety Security and Emergency Management Branch is currently updating the Dam Safety Security and Emergency Management (DSSEM) handbook and preparing draft language for revision of the Indian Dams Safety Act of 1994 (IDSA) to be consistent with Federal Emergency Management Agency (FEMA) guidelines and other Department of the Interior (DOI) agencies.

Indian Affairs considers the actions taken regarding recommendation 1 to be sufficient to address these recommendations.

Responsible Party: BIA Dam Safety and Security Officer

Target Date: February 15, 2014

### OIG Recommendations No. 2 through 5

2. *Comply with requirements to exercise the Emergency Action Plans (EAPs) for high and significant hazard dam;*
3. *Comply with requirements to prepare an exercise completion report after an EAP exercise or dam incident that includes a planned course of action to implement and track recommended actions;*



4. *Establish consistent documentation for annual EAP reviews and communication drills; and*
5. *Establish a timeline to finalize all the EAPs currently in draft.*

**Response:**

Indian Affairs concurs with recommendations No. 2 through 5.

BIA's revised DSSEM Handbook will require BIA to exercise its Emergency Action Plans (EAPs) every 5 years. This revision is consistent with the FEMA "Federal Guidelines for Dam Safety." In addition, the revised time period for EAP exercising and reporting will improve DSSEM program resource management, efficiency, and effectiveness. The requirement for exercise completion reports and identification of actions will be included in the revised DSSEM handbook. A tracking system will be developed and maintained by the Emergency Management Coordinator. The BIA Emergency Management Coordinator will review all current draft EAPs and schedule tabletop exercises. All draft EAPs will be finalized within 60 days of completed tabletop exercises.

Indian Affairs considers the actions taken regarding recommendations No. 2 through 5 to be sufficient to address these recommendations.

Responsible Party: BIA Emergency Management Coordinator  
Target Date: February 15, 2014

**OIG Recommendations No. 6 and 7.**

6. *Maintain an inventory for all high and significant hazard dams EAPs and exercise completion reports; and*
7. *Ensure EAPs for all high and significant hazard dams have a listing of materials and equipment to the extent possible, and document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews.*

**Response:**

Indian Affairs concurs with recommendations No. 6 and 7 to be sufficient to address these recommendations.

The requirement for an inventory of all high and significant hazard dams EAPs and exercise completion reports will be included in the revised DSSEM handbook and the initial inventory will be completed. The requirement for listing, updating and verifying materials and equipment will also be included in the revised DSSEM handbook. A tracking system for verification will be developed and maintained by the Emergency Management Coordinator.

Responsible Party: BIA Emergency Management Coordinator  
Target Date: February 15, 2014

**OIG Recommendation No. 8 through 10**

8. *Determine if EWSs are needed and feasible at all high and significant hazard dams. If BIA determines that any of the remaining dams need an Early Warning System (EWS) and it is feasible, BIA should develop and initiate an implementation plan;*
9. *Incorporate EWS information into EAPs for those dams with an EWS; and*
10. *Establish a policy to periodically review and update the established EWS decision criteria for each dam site and the communication directories at the National Monitoring Center (NMC) and document those reviews.*

**Response:**

Indian Affairs concurs with recommendations No. 8 through 10.

The Bureau of Indian Affairs Dam Safety Officer will review all 136 BIA high and significant hazard dams to determine the need and feasibility of Early Warning Systems. A report on the determination and an implementation plan will be developed, as necessary, by the target date. The revised DSSEM handbook will require periodic review of EWS installation and operation and the inclusion of EWS information, including NMC protocols, in the updated and revised the EAP's for those dams that have EWS's. A tracking system will be developed and maintained by the Emergency Management Coordinator.

Responsible Party: BIA Dam Safety and Security Officer

Target Date: February 15, 2014

**Recommendation No. 11**

11. *BIA should work with the U.S. Bureau of Reclamation to have all the EWSs fully functional.*

**Response:**

Indian Affairs concurs with recommendation No. 11. The Dam Safety and Security Officer has adequate authority to mandate inter-bureau coordination.

The EWS functional decision criteria and equipment installation is performed by Reclamation under an Inter-agency Agreement. BIA has been requesting accomplishment consistent with the BIA-Reclamation Interagency Agreement for over a year. BIA and Reclamation are currently assuring the project manager for Reclamation completes the assigned tasks. If Reclamation is not responsive and fails to have the required Early Warning Systems fully functional (installation and decision criteria completed) the Bureau of Indian Affairs staff in the Safety of Dams Branch will complete the tasks required to have all of the Early Warning Systems fully functional.

Responsible Party: BIA Dam Safety and Security Officer

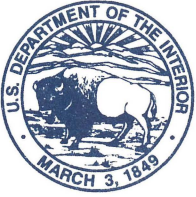
Target Date: February 15, 2014

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## **Appendix 4: U.S. Fish and Wildlife Service's Response**

The U.S. Fish and Wildlife Service's response to our draft report follows on page 21.





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Washington, D.C. 20240



In Reply Refer To:  
FWS/ABHC/PDM/055243

AUG 06 2013

Ms. Kimberly Elmore  
Assistant Inspector General for Audits, Inspections, and Evaluations  
U.S. Department of the Interior  
Office of the Inspector General  
1849 C Street, NW, MS 4428  
Washington, DC 20240

Dear Ms. Elmore:

Thank you for providing the U.S. Fish and Wildlife Service the opportunity to respond and comment on the draft Evaluation Report - Bureau of Indian Affairs and U.S. Fish and Wildlife Service Safety of Dams: Emergency Preparedness, Report No. WR-EV-MOA-0002-2013

You will find our response to the findings and our plan to address those findings attached to this document.

Sincerely,

Rachel Jacobson  
Principal Deputy Assistant Secretary for  
Fish Wildlife and Parks

Attachment

**Office of the Inspector General**  
**Draft Evaluation Report - Bureau of Indian Affairs and U.S. Fish and Wildlife Service Safety**  
**of Dams: Emergency Preparedness**  
**Report No. WR-EV-MOA-0002-2013**

**Specific Comments**

Page one of the draft report, first sentence lists “many issues identified in previous reports “such as not routinely exercising emergency action plans”(EAP), etc. The issues referenced as not being performed apply ONLY to the Bureau of Indian Affairs, and DO NOT APPLY to the U.S. Fish and Wildlife Service (Service) as the Service does routinely perform EAP exercises, does document the exercises and does include a listing of materials and equipment in the EAPs. The Service has an excellent EAP program. Including the Service in the last sentence inaccurately and unfairly implies that we do not perform these important functions. Please delete the U.S. Fish and Wildlife Service from the last sentence.

**Conclusion**

*In April 2013, we issued BIA and FWS Notices of Potential Findings and Recommendations that outlined the findings in this report. BIA and FWS generally concurred with our findings and recommendations; they have begun addressing the issues identified in our review.*

*Both BIA and FWS are committed to the continual improvement of existing emergency management procedures and we commend them for their dedication and ongoing efforts.*

**Recommendation 12:** Document the process of verifying the location and existence of equipment and materials listed in the EAPs as part of the annual EAP reviews;

**Response:**

Concur. The Service has modified the Annual EAP Review Verification form to include a specific section to be completed, verifying the location of materials and equipment. The new Annual EAP Review Verification form will be used during the upcoming 2013 EAP Annual Review starting in the fall of 2013.

**Target Date:** October 31, 2013

**Responsible Official:** Brad Iarossi, Service Dam Safety Officer

**Recommendation 13:** Create a written policy that requires the preparation and issuance of an AAR after each incident or exercise and the inclusion of a planned course of action to implement and track the recommended corrective actions in the AAR to formalize its existing practice.

**Response:**

Concur. The Service will modify the Dam Safety Policy 361 FW 1-3 to incorporate the preparation of an After Action Report for each incident and exercise. The policy amendments

will provide for specific details required in the AAR and procedures to track and verify recommended corrective actions.

**Target Date:** April 30, 2014

**Responsible Official:** Brad Iarossi, Service Dam Safety Officer

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## Appendix 5: Status of Recommendations

Recommendations	Status	Required Action
I – 13	Resolved but not implemented.	No further response to the Office of Inspector General is required. We are referring the recommendations to the Assistant Secretary for Policy, Management and Budget for tracking.

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**By Fax:**      703-487-5402

**By Mail:**      U.S. Department of the Interior  
Office of Inspector General  
Mail Stop 4428 MIB  
1849 C Street, NW.  
Washington, DC 20240