A Template for an Inspection
And Maintenance Plan for Dams

Purpose:

Pursuant to New York State Environmental Conservation Law Article 15-0507: Dam owners shall at all times operate and maintain the dam and all appurtenant works in a safe condition. The purpose of this document is to assist dam owners in developing a Dam Safety Inspection and Maintenance Plan (I&M Plan) as required by NYCRR Part 673.6. The I&M Plan should be used by the owner and kept on file, but does not need to be submitted to the Department unless requested.

This template reflects the general components of an I&M plan for the average dam. Use of this format does not guarantee acceptance of the Inspection and Maintenance Plan by the Department. Dam owners may use other guidance and formats so long as the plan complies with 6 NYCRR Part 673.6.

Additional narrative space should be added as needed.

TEMPLATE

An I&M Plan should indicate who prepared it, when it was last revised and where the Plan is located, as in the following:

Prepared By: Name: ____________________________________________________________
Title: ____________________________________________________________
Company: ____________________________________________________________

Date Last Revised: ______________________________________________

Location of Dam Inspection and Maintenance Plan: ____________________________________
____________________________________________________________________________
____________________________________________________________________________

DS-IM-1 (9/09) DRAFT 1
Part 1: Dam Data

Dam Name: ____________________________________________________________________

Dam State Identification Number:  ________________________________________________

Federal Energy Regulatory Commission Identification Number, if applicable: ______________

Dam Hazard Classification:  _______________________________________________________

(C-High Hazard, B-Intermediate Hazard, A-Low Hazard)

Date of last Hazard Class Verification:  ____________________________________________

Dam Location: County: _____________________  Town/City/Village: ____________________

Latitude: _____________________  Longitude: ___________________________

Dam Type: ________________________________ (embankment, concrete, combination, other)

Year of original construction: ______________   Year of last construction activity: ____________

Name of last Engineer and Builder:  _________________________________________________

Dam Use(s):  ___________________________________________________________________

(water supply, flood control, energy generation, recreation, irrigation, pollution control, other)

Dam Owner(s) Name: ____________________________________________________________

Dam Owner(s) Mailing Address: ___________________________________________________

Dam Owner(s) Telephone Number: _________________________________________________

Dam Owner(s) Facsimile Number: __________________________________________________

Dam Owner(s) E-Mail: ___________________________________________________________

Reservoir and stream (inflow and outflow) name and class (and/or navigability?):

______________________________________________________________________________

Associated wetlands and other natural resources of special concern:

______________________________________________________________________________

Dam height: ________________________________________________________________  feet

(as measured from downstream toe at lowest point to top of dam)

Dam Crest length: ____________________________________________________________  feet

Dam Crest width: ___________________________________________________________  feet

Maximum Impoundment Volume: ___________________________________________  gallons

All Counties/Towns/Cities/Villages within downstream inundation zone:

(B and C Hazard Class dam owners should refer to their Emergency Action Plans)

________________________________________________________________________

________________________________________________________________________

Normal Pool Elevation: _________________________________________________________

(set by crest of service spillway)

Auxiliary/Emergency Spillway Elevation:

Maximum Design Water Surface Elevation: _______________________________________

(specify vertical datum used: local, barge canal, NGVD 29, NAVD 88, IGLD)
Part II: Dam Inspection and Maintenance

Primary person responsible for Dam Operations: ______________________________________

(name, title, phone number)

**INSPECTION** - This section of your I&M Plan should indicate who, how frequent, and what is involved in an inspection. A form or forms should be developed and included which can be used for each type of inspection or items to be monitored. Each dam will typically have specific features which will require monitoring. Such features may be adapted from past inspection reports that were either prepared by NYSDEC or the owner’s engineer. Include a table, such as the following, to identify the various type of inspections.

<table>
<thead>
<tr>
<th>INSPECTION TYPE</th>
<th>FREQUENCY</th>
<th>ITEMS TO INSPECT/MONITOR</th>
<th>PERSONNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal (i.e. storm events, snow melts)</td>
<td>As needed, after event</td>
<td>Spillway/Aux. Spillway/Seepage</td>
<td>Damtender/Owner</td>
</tr>
<tr>
<td>Informal</td>
<td>Monthly/Bi-Monthly/Other</td>
<td>Seepage/Wet Areas/ Toe Drain Flow/ Pool Level/ Trash Rack Debris/ Slides/Cracks/ Rodent Activity/ Vegetation/ Concrete Surfaces/ Vandalism/ Piezometers</td>
<td>Damtender/Owner</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Semi-Annually/ Annually/ Other</td>
<td><strong>In addition to above items:</strong> Slope Protection/Riprap Erosion/ Condition of Vegetative Cover/ Spillway and embankment Condition/ Lake Drain Conditions/ Settlement Monuments</td>
<td>Damtender/Owner/ Engineer</td>
</tr>
<tr>
<td>Technical</td>
<td>Periodic*</td>
<td>Safety Inspection (See Part 673.12)</td>
<td>Engineer</td>
</tr>
<tr>
<td>Technical</td>
<td>Periodic (After initial, every 10 years)</td>
<td>Engineering Assessment (See Part 673.13)</td>
<td>Engineer</td>
</tr>
</tbody>
</table>

* For Class C dams, typical Safety Inspection frequency should be every 2 years, For Class B dams, typical Safety Inspection frequency should be every 4 years
MAINTENANCE – Indicate in your I&M Plan the items which will require periodic maintenance. Particular attention should be given to conditions noted on past inspection reports. Examples of typical maintenance are given below. Your dam may consist of some or all of these items and/or require additional measures, or modified frequencies.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mow embankment and emergency spillway</td>
<td>2 times/year</td>
</tr>
<tr>
<td>Lubricate and repair as needed lake drain</td>
<td>Annually</td>
</tr>
<tr>
<td>valve mechanism</td>
<td></td>
</tr>
<tr>
<td>Re-establish proper vegetative cover</td>
<td>As needed</td>
</tr>
<tr>
<td>Address erosion</td>
<td>As needed</td>
</tr>
<tr>
<td>Address rodent damage</td>
<td>As needed</td>
</tr>
<tr>
<td>Clean trash rack</td>
<td>As needed</td>
</tr>
<tr>
<td>Concrete Maintenance</td>
<td>As needed</td>
</tr>
<tr>
<td>Maintain other mechanical equipment</td>
<td>Annually</td>
</tr>
<tr>
<td>Replace/ replenish riprap</td>
<td>Annually</td>
</tr>
</tbody>
</table>

OPERATION - Give a summary of all your operation procedures for the dam. Specific procedures for operation of mechanical equipment such as valves should be included here, or attached. Emergency operation should be covered in an Emergency Action Plan (EAP).

Some examples of items that would require operational/procedural descriptions may include:

- pool level drawdown for the winter season
- exercise (specified frequency – i.e. 2x/year), lubrication of valves
- record keeping (who is maintaining, location)

SAFE RATE DRAWDOWN PLAN - This section should include the method to be used for drawing the impoundment down under emergency and non-emergency conditions. This could include the maximum release rate which will not cause downstream flooding or rapid drawdown damage. Alternative ways to provide for drawdown if needed (i.e. portable pumps, temporary siphons) should also be included. (Hasty, unplanned action during emergency situations could increase the dam failure rate or actually cause failure)
Part III: Training

List of procedures and frequency for training personnel regarding the I&M Plan. Also note other training needs, such as confined space entry procedures per OSHA requirements.

Part IV: Notifications

List of Items Requiring Notification and Notification Procedures pursuant to ECL Part 673. This should consist of at a minimum the following:

<table>
<thead>
<tr>
<th>Form</th>
<th>Submittal Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Certification</td>
<td>By January 31, of each year</td>
</tr>
<tr>
<td>Incident Report Form (EAP Activation, Flow in Erodible Spillway)</td>
<td>Within 5 days of incident</td>
</tr>
<tr>
<td>Notification of Property Transfer</td>
<td>Sale of property where dam is located</td>
</tr>
</tbody>
</table>

Part V: Appendices

Examples of typical appendices include the following:

1. Inspection Forms
2. Past Inspection Reports
3. Reduced Size As-Built Drawings
4. Spillway Rating Curve
5. Drain Rating Curve
6. Pictures

Part VI: Available References
