USACE REALLOCATION INFORMATION AND OVERVIEW

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AGENDA

• The what, where and how of a Reallocation Study
• Overview of Milford and Perry
• Pool raise evaluation and USACE policy
AUTHORITY

- Authority for the Corps to reallocate existing storage space to M&I water supply is contained in Public Law 85-500, Title III, Water Supply Act of 1958, as amended.

- Section 301(a), established a policy of cooperation in development of water supplies for domestic, municipal, industrial and other purposes.

- Section 301(b) is the authority of the Corps to include municipal and industrial (M&I) water storage in reservoir projects, and/or reallocate storage in existing projects to M&I water supply (post construction).

- States and non-Federal entities responsible for the development and management of their water supplies. Financial burden of applied to users.
WHAT IS THE PROCESS TO INITIATE A REALLOCATION STUDY?

The district creates a budget request for Reallocations to be funded one of 3 ways:

- Federally funded using O&M account
- Cost shared via “Investigations” account
- Can be funded solely by a water user through “contributed funds”
WHAT DOES REALLOCATED STORAGE MEAN?

[Diagram showing reservoir components: Surcharge Pool, Flood Control Pool, Conservation Pool, Inactive Pool, Water Supply, Dam, Powerhouse]
REALLOCATION OBJECTIVE

The objective of this reallocation study is to determine if reallocation at XXX Lake is a viable option to meet immediate and future municipal and industrial water supply storage needs for the next 50 years.
PLAN FORMULATION PROCESS

1. Identify problems & opportunities
2. Inventory & forecast conditions
3. Formulate alternatives
4. Evaluate alternatives
5. Compare alternatives
6. Select recommended plan
Benefits of a reallocation are measured by the cost of the most likely alternative to be implemented in the absence of a Federal project (i.e. reallocation of storage).
APPROVAL AUTHORITY

• Previously, depending on the amount of storage being requested - HQUSACE, Chief of Engineers

• Current guidance is that all reallocations, no matter the amount - Assistant Secretary of the Army for Civil Works or the ASA(CW).

• Public Law 85-500, Title III, Water Supply Act of 1958, as amended. Sect 301(d) states that if modifications pertaining to a reallocation that would involve major structural or operational changes of significantly affect other authorized purposes, requires Congressional approval.
Overview of Milford and Perry
KWO submitted a package pursuant to this law; however, since the request did not meet the criteria outlined in the law, the ASA(CW) did not recommend the package for the 7001 Main Report, instead it was placed in the appendix of the 7001 Report.
Milford Lake Storage Allocations
Storage Began January 1967  Last Sediment Survey October 2009

Top of Surcharge Pool
Freeboard = 4.8 ft
Surcharge Space = 1,475,812 AF
Top of Flood Control Pool
Spillway Crest = 1176.2
Flood Control Space = 757,872 AF
Peak Pool Elev = 1181.94 (July 25, 1993)
Top of Multipurpose Pool
Multipurpose Space = 373,152 AF

43 Years of Sedimentation
Some sedimentation has occurred, but the rate is not defined.

43 Years of Sedimentation
Sedimentation rate ~ 1,000 AF per year

Storage Allocations (AF)

<table>
<thead>
<tr>
<th></th>
<th>1967</th>
<th>1980</th>
<th>2009</th>
<th>2067 (est)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Flood Control Pool</td>
<td>757,746</td>
<td>756,601</td>
<td>757,872</td>
<td>700,000</td>
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<tr>
<td>Exclusive Flood Control</td>
<td>700,000</td>
<td>700,000</td>
<td>700,000</td>
<td>700,000</td>
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<tr>
<td>FP Sediment Reserve</td>
<td>57,746</td>
<td>56,601</td>
<td>57,872</td>
<td>0</td>
</tr>
<tr>
<td>Total Multipurpose Pool</td>
<td>415,352</td>
<td>388,608</td>
<td>373,152</td>
<td>300,000</td>
</tr>
<tr>
<td>In-Service Water Supply</td>
<td>0</td>
<td>101,650</td>
<td>101,650</td>
<td>300,000</td>
</tr>
<tr>
<td>Future Use Water Supply</td>
<td>300,000</td>
<td>198,350</td>
<td>198,350</td>
<td>0</td>
</tr>
<tr>
<td>MP Sediment Reserve</td>
<td>115,352</td>
<td>88,608</td>
<td>73,152</td>
<td>0</td>
</tr>
</tbody>
</table>

2009 tables now used for lake ops.
State of Kansas (KWO) contracted for water supply allocation in 1974. The initial in-service increment of 101,650 AF is subcontracted to the Kansas River Water Assurance District and KP&L. Until called into service, the future use space is operated for other MP uses.
# Perry Lake Storage Allocations

**Storage Began January 1969**  
**Last Sediment Survey August 2009**

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**Surcharge Space** = 695,257 AF  
Freeboard = 4.8 ft  
Spillway Crest = 922.0

**Flood Control Space** = 515,519 AF  
Peak Pool Elev = 920.85 (July 25, 1993)

**Multipurpose Space** = 200,004 AF

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## 41 Years of Sedimentation
- **Sedimentation rate**  
  ≈ 150 AF per year

- **Sedimentation rate**  
  ≈ 1,050 AF per year

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## Storage Allocations (AF)

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>2001</th>
<th>2009</th>
<th>2069 (est)</th>
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</thead>
<tbody>
<tr>
<td><strong>Total Flood Control Pool</strong></td>
<td>521,880</td>
<td>515,397</td>
<td>515,519</td>
<td>480,000</td>
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<tr>
<td>Exclusive Flood Control</td>
<td>480,000</td>
<td>480,000</td>
<td>480,000</td>
<td>480,000</td>
</tr>
<tr>
<td>FP Sediment Reserve</td>
<td>41,880</td>
<td>35,397</td>
<td>35,519</td>
<td>0</td>
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<tr>
<td><strong>Total Multipurpose Pool</strong></td>
<td>243,220</td>
<td>206,682</td>
<td>200,004</td>
<td>150,000</td>
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<tr>
<td>In-Service Water Supply</td>
<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
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<tr>
<td>Future Use Water Supply</td>
<td>150,000</td>
<td>125,000</td>
<td>125,000</td>
<td>0</td>
</tr>
<tr>
<td>MP Sediment Reserve</td>
<td>93,220</td>
<td>56,582</td>
<td>50,004</td>
<td>0</td>
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</tbody>
</table>

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2009 tables now used for operations.  
The State of Kansas (KWO) contracted for the water supply allocation in 1977.  
The initial 25,000 AF increment is contracted to the Kansas River Water Assurance District.  
Valley Falls has a separate water withdrawal contract.
How to Evaluate Water Supply Storage to Water Quality Storage?

• This type of preliminary evaluation could be included as part of the KS River Basin Watershed Study

• Planning Assistance to States could also be an avenue
Pool raise evaluation and USACE policy
All USACE dams have a Dam Safety Action Classification rating or DSAC rating.

- A reallocation that would require raising the conservation pool is not permitted while a project is classified a DSAC 1, 2, or 3.
- A reallocation from a DSAC 4 will be considered by HQUSACE on a case-by-case basis.
**DAM SAFETY PROCESS**

If sponsor pursues pool raise at DSAC 3 or lower rated project

<table>
<thead>
<tr>
<th>DAM SAFETY STEPS</th>
<th>STEP 1.</th>
<th>STEP 2.</th>
<th>STEP 3.</th>
<th>STEP 4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Study</td>
<td>Updated/Refined Probable Maximum Flood</td>
<td>Semi-Quantitative Risk Assessment</td>
<td>Issue Evaluation Study (Refine uncertainties with hydrologic loading and probability of failure)</td>
<td>Dam Safety Modification Study (similar to Pre-Engineering and Design and Construction)</td>
</tr>
<tr>
<td>Study timeframe</td>
<td>9 months</td>
<td>1 year</td>
<td>2 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Cost</td>
<td>$150,000</td>
<td>$500,000</td>
<td>$1,500,000</td>
<td>$3,000,000 + (depending on recommended fix)</td>
</tr>
</tbody>
</table>
QUESTIONS?