COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

John Hickenlooper, Governor

Mike King, DNR Executive Director

James Eklund, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Kirk Russell, P.E., Finance Section Chief

DATE: November 19-20, 2014 Board Meeting

AGENDA ITEM: 28b - Change to Existing Loans
Northern Colorado Water Conservancy District - Granby Hydropower Project

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Introduction

In May 2014, the CWCB approved a loan to the Northern Colorado Water Conservancy District (District) acting by and through its hydropower enterprise (Enterprise) for the construction of the 1.2 Megawatt Granby Hydropower Project (Project). The Project is located at the existing Colorado – Big Thompson Project Granby Dam and will utilize the existing releases from Lake Granby to the Colorado River. The total Project cost is estimated at $5,669,340. The District was approved for a loan to cover 90% of the project costs. A Project Data Sheet is attached with a location map and a Project summary.

The District is requesting the CWCB modify the previous CWCB loan authorization to clarify that the pledged revenues for the loan are only those revenues from the Granby Hydropower facility and not revenues from the entire Enterprise as originally presented by staff to the Board.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed $5,135,183 ($5,084,340 for Project costs and $50,843 for the 1% Loan Service Fee) to the Northern Water Hydropower Water Activity Enterprise owned by Northern Colorado Water Conservancy District for the design and construction of the Granby Hydropower Project from the Severance Tax Perpetual Base Fund. The loan terms shall be 30 years at the Hydroelectric interest rate of 2.0% per annum. Security for the loan shall be a pledge of Granby Hydropower Plant revenues.

Staff also recommends the addition of condition #3 below to the original requirements that must be met prior to the disbursement of loan funds:

Contract Conditions

1. Execution of the Lease of Power Privilege
2. Execution of the Power Purchase Agreement
3. Modify the existing Enterprise debt to clearly define the Pledged Revenues used for the construction of the Carter Hydropower Plant.

Background

The District, in partnership with the Bureau of Reclamation (Reclamation), operates and maintains the Colorado-Big Thompson (C-BT) Project facilities including 700 miles of transmission lines, 95 miles of canals, 35 miles of tunnels, seven hydropower plants, and 12 reservoirs including Granby Dam and Reservoir. On average, the C-BT Project collects and delivers more than 210,000 acre feet (AF) of water annually. Most of the water is collected in the upper Colorado River basin, west of the Continental Divide. Water is delivered to the East Slope via a 13-mile tunnel beneath Rocky Mountain National Park. Northern Water's service area includes 640,000 acres of irrigated farm land and 860,000 people located in portions of Boulder, Broomfield, Larimer, Weld, Morgan, Washington, Logan and Sedgwick counties.

The District is planning on adding an additional hydropower plant to the system by constructing a plant at the base of Granby Dam in Grand County. Lake Granby, located five miles northeast of the Town of Granby, is the largest storage reservoir in the C-BT Project. It was constructed between 1942 and 1949 and has a capacity of 539,758 AF. The Colorado River flows from Shadow Mountain Reservoir into Lake Granby and exits the lake at Granby Dam. The Granby Dam is a 225-foot earthfill dam. The outlet consists of a pressurized tunnel leading to a gate chamber that regulates discharges into a non-pressurized tunnel. The non-pressurized tunnel discharges to the Colorado River downstream of the dam.

The C-BT Project has minimum streamflow obligations below Lake Granby ranging from 20 cubic feet per second (cfs) during the winter to 75 cfs during the summer. During times when Lake Granby is near maximum water surface levels, the valves can release up to 440 cfs. The District proposes to install a hydropower station that will use the minimum streamflow obligations and a portion of additional releases to generate power through a 1.2-megawatt facility. The proposed Project will utilize the existing outlet flows from Granby Dam to the Colorado River and will act as a run-of-river plant, meaning the plant operations will not change existing flows or dam releases.

Project and Permitting Update

The Project is being performed under Reclamation's Lease of Power Privilege (LOPP) process that allows for the development of new hydropower at existing Reclamation facilities. The process is similar to the Federal Energy Regulatory Commission process but is administered by Reclamation.

A preliminary LOPP was granted by Reclamation in September 2011. The environmental permitting process is presently underway and is led by Reclamation. Reclamation will grant a Categorical Exclusion for the Project since the area was previously disturbed, is not changing project operations, and is not changing the water release location back to the Colorado River. The Categorical Exclusion and the LOPP from Reclamation is anticipated by the end of 2014. The 30-year Power Purchase Agreement (PPA) with Mountain Parks Electric, Inc. is expected by the end of 2014.

TABLE 1: PROJECT COST

Design Engineering	$ 530,000
Project Management (District)	$200,000
Construction Management Engineering	$30,000
Mountain Parks Electric Interconnection	$340,000
Construction	$ 3,938,000
LOPP Review	$55,000
Contingency	$ 576,340
TOTAL PROJECT COST	$5,669,340

Design and Schedule: Final engineering is nearly complete. The turbine equipment will be ordered by the end of 2014 pending funding approval. Construction will occur in the summer/fall of 2015 and the plant is expected to be operational by May 2016.

The CWCB will delay the Loan's close-out date for at least one year after the Project's substantial completion date. This will allow the Enterprise to make the required payment for Interest accrued During Construction (IDC) after one year of power generation.

Borrower - Northern Water Hydropower Water Activity Enterprise
The Enterprise is a government-owned business within the meaning of Article X Section 20(2)(d) of the Colorado Constitution, organized pursuant to C.R.S. 37-45.1-101 *et seq.* and owned by the Northern Colorado Water Conservancy District.

The Enterprise was established in 2011 for the purpose of acquiring, constructing, operating, and maintaining hydropower plants; and generating, distributing, selling or contracting to sell electric energy. The governing body of the Enterprise is the District's Board of Directors.

The District is a quasi-municipal entity and a political subdivision of the state of Colorado organized under the Water Conservancy Act, C.R.S. 37-45-101 et seq. The District was created by decree of the Weld County District Court, dated September 20, 1937.

In accordance with its Repayment Contract with Reclamation, the District collects a 1.00 mill levy property tax on real property located within its boundaries. These taxes are assessed by the individual counties and submitted to the District. In addition, the District collects water assessments from water allotment contract holders.

The District has the authority to generate, distribute, sell, or contract to sell electric energy at wholesale rates through the operation of its facilities. The electric power may be used both within and outside the boundaries of the District (C.R.S. 37-45-118(2)).

Project Feasibility
Carl Brouwer, P.E., of the District prepared the Loan Feasibility Study, titled "Granby Hydro Project Loan Feasibility Study," dated April 1, 2014. The Study was prepared in accordance with CWCB guidelines and includes preliminary engineering, an engineer's estimate of probable cost that were used in determination of the total Project cost, and two years of audited financial statements. The District also submitted a supplemental report prepared by CH2MHill, titled "Feasibility Design Report Granby Hydropower Project," dated August 2011.

Project Revenues and Expenses
The Project is designed to generate 4,800,000 to 5,000,000 kilowatt-hours per year. Therefore, revenues are projected to be approximately $350,000 to $390,000 annually. Project expenses include a Mountain Parks Electric, Inc. capacity charge of $2 per kilowatt per month ($13,000 annually), Reclamation LOPP charge of 2 mills per kilowatt-hour (beginning at $11,774 annually and escalating at 1.5% per year) and operations and maintenance estimated at $50,000 annually (escalating at 1.5% per year).

The Granby Hydropower LOPP term is 40 years from the time power generation begins. Payment is made annually to Reclamation based upon the capacity of the site and the kilowatt-hours produced.

Updated Financial Analysis
The Enterprise qualifies for a 2% Hydropower interest rate for a 30 year term.

TABLE 2: FINANCIAL SUMMARY

Total Project Cost	$5,669,340
Borrower Contribution (approximately 10%)	$585,000
CWCB Loan Amount (90%)	$5,084,340
CWCB Loan Amount (Including 1% Service Fee)	$5,135,183
Annual CWCB Loan Payment	$229,286
Annual CWCB Loan Obligation (Including 10% Reserve)	$252,214
Project Cost per kilo-watt hour (5.0 MW/year)	$1.13

Creditworthiness: The Enterprise has successfully constructed the $6.7M Carter Hydropower plant with the two loans shown in Table 3 and made two annual loan payments.

TABLE 3: EXISTING ENTERPRISE DEBT

Loan	Maturity Date	Remaining Balance	Annual Payment	Collateral
CO Water Resources and Power Development Authority (Carter Lake Hydro Project)	2032	$1,918,000	$122,313	Pledge of System Revenues
Northern Colorado Water Conservancy District (Carter Lake Hydro Project)	2032	$4,539,000	$289,516	Pledge of System Revenues
TOTAL		$6,457,000	$411,829	

TABLE 4: FINANCIAL RATIOS[1]

Financial Ratio	Carter Lake [2] Hydro Projections	Granby Hydro[3] Projections
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	104% (Average) $557K/$537K	109% (Average) $349K/$320K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	105% (Average) $557K-$125K / $412K	113% (Average) $349K-$91K / $229K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	N/A	N/A[4]

(1) The District provided audited financials for the Enterprise for 2012 and 2013 however staff has determined the information is not directly applicable since the Carter Lake project was under construction and not yet in repayment on its loans. It also did not reflect two full years of power production.

(2) Carter Lake Hydro ratios were calculated using a 20-year average (debt repayment period) of "break even" economic calculations provided by the District. These ratios are shown as a comparison of the initial risk associated with the first hydro project completed by the Enterprise.

(3) Granby Hydro ratios were calculated using a 30-year average of the "Planning Scenario" economic calculations provided in the Loan Feasibility Study. This scenario is a conservative estimate based on proposed power purchase rates, annual projected power production of 4.8M kw-hrs, and escalating operations and maintenance costs.

(4) The Granby Hydro will begin with no cash or revenue until power is produced. The required $585,000 borrower match for the Project will come from the District. To date, the District has spent approximately $500,000 in design, permitting, and contracting fees. The first year of power production is expected to generate $165,000 in revenues. These revenues will pay for IDCs and establish a cash reserve for the Project.

Collateral: ***S***ecurity for the loan will be a pledge of power revenues from the Granby Hydropower Plant and annual financial reporting. Since the pledge of repayment is based on a Power Purchase Agreement, a rate covenant is not available as required by Financial Policy #5. Staff is recommending approval of a variance from Policy #5 due to a 30 year term of the Power Purchase Agreement and the Enterprise's successful history with the Carter Lake Hydropower plant.

cc: Carl Brouwer, Project Manager, Northern Water Conservancy District
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

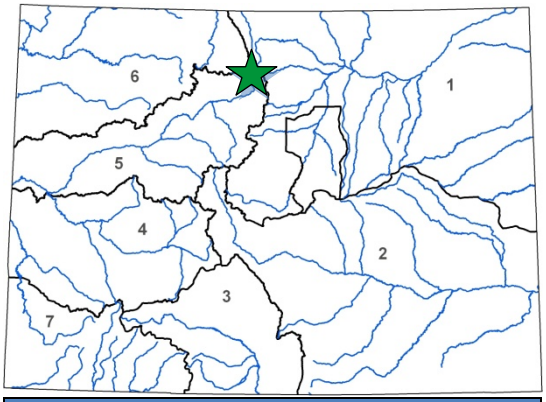
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Granby Hydropower Project

Northern Colorado Water Conservancy District

November 2014 Board Meeting

LOAN DETAILS	
Project Cost:	$5,669,340
CWCB Loan (with Service Fee):	$5,135,183
Loan Term and Interest Rate:	30 Years @ 2.0 %
Funding Source:	*Severance Tax Perpetual Base Fund*
BORROWER TYPE	
Hydropower	
PROJECT DETAILS	
Project Type:	Hydroelectric
Average Annual Power Production:	4.9M KWh



LOCATION			
County:			Grand
Water Source:			Colorado River
Drainage Basin:			Colorado
Division:	5	*District:*	51

Northern Water Hydropower Water Activity Enterprise a government –business owned by the Northern Colorado Water Conservancy District is applying for a loan for the construction of the Granby Hydropower Project. The Project is located at the existing Colorado – Big Thompson Project Granby Dam and will utilize the existing releases to the Colorado River without changing the flow regime. The hydro station will use the minimum streamflow obligations and a portion of additional releases to generate power through a 1.2-megawatt facility. The Project is being performed under the U.S. Bureau of Reclamation's Lease of Power Privilege (LOPP) process. Power generated will be purchased by Mountain Parks Electric, Inc. per a 30-year Power Purchase Agreement (PPA). The anticipated Project schedule is to finalize the LOPP and PPA by end of 2014. Construction will occur in the summer/fall of 2015 and is expected to be operational by the summer of 2016.

Lake Granby Tunnel Outlet