Mojave Water Agency

DATE: August 11, 2016

TO: Board of Directors

FROM: Kirby Brill, General Manager

BY: Darrell Reynolds, Director of Engineering

SUBJECT: **CONSIDER SOUTHERN CALIFORNIA EDISON (SCE) INTERCONNECTION AGREEMENT AND WHOLESALE DISTRIBUTION SERVICE AGREEMENT FOR THE DEEP CREEK HYDROELECTRIC PROJECT**

RECOMMENDATION

Staff recommends the Board of Directors consider approval of an authorization for the General Manager to enter into Southern California Edison (SCE) Interconnection Agreement and Wholesale Distribution Service Agreement for the Deep Creek Hydroelectric Project.

PREVIOUS CONSIDERATION BY COMMITTEE/BOARD OF DIRECTORS

Engineering & Operations Committee Meeting – February 10, 2009: The Committee discussed and recommended to the Board the authorize a feasibility study to RBF (prepared by R.W. Beck) for the Hydroelectric Project.
Board of Directors Meeting – February 26, 2009: The Board discussed and approved the authorization of a feasibility study to RBF (prepared by R.W. Beck) for the Hydroelectric Project.
Personnel, Finance & Security Committee Meeting – September 20, 2011: The Committee discussed and recommended to the Board the adoption of Resolution No. 938-11 regarding the intention to issue tax-exempt bonds for the Hydroelectric Project.
Board of Directors Meeting – October 13, 2011: The Board discussed and adopted Resolution No. 938-11 regarding the intention to issue tax-exempt bonds should the Agency move forward with construction of the Hydroelectric Project.
Board of Directors Meeting – November 8, 2011: The Board discussed and authorized additional services to SAIC (formerly R.W. Beck) for the SCE application phase of the Hydroelectric Project.
Engineering & Operations Committee Meeting – October 9, 2012: The Committee discussed the results of the SIS Report from SCE application and the next steps if the Agency was to move forward with the Hydroelectric Project. The Committee did not approve moving forward with the Project.
Engineering & Operations Committee Meeting – October 14, 2014: The Committee discussed changes to the law and other SCE requirements that will effect development of a hydroelectric project at Deep Creek. The professional services agreement with Nline Energy to proceed with engineering services to support a new application to SCE for the Deep Creek Hydroelectric Project was discussed.

Board of Directors Meeting – November 6, 2014: The Board discussed the Deep Creek Hydroelectric Project and continued the item until the next Board meeting after the next Personnel, Finance & Security Committee Meeting to allow further discussion at the Committee.
Personnel, Finance & Security Meeting – November 18, 2014: The Committee discussed the Deep Creek Hydroelectric project revenue projections.
Board of Directors Meeting – December 11, 2014: The Board discussed the financial projections of a proposed hydroelectric turbine at Deep Creek. The Board approved a professional Services contract for NLine Energy to produce a 50% design and submit an interconnection Application with SCE.
Engineering & Operations Committee Meeting – July 12, 2016: The Committee reviewed the 50% design, cost estimates, SCE Interconnection cost, and financial projects while considering entering into Interconnection Agreements with SCE. The Committee discussed NLine Energy's Phase II additional engineering services contract for final design through Bid Award. The Committee recommended these to the Board for consideration.
Engineering & Operations Committee Meeting – August 9, 2016: The Committee reviewed the SCE Interconnection Agreement and Wholesale Distribution Service Agreement.

BACKGROUND AND ANALYSIS

Project Description:

The Deep Creek Hydroelectric Project is located at the existing Flow Control Facility just south of the Central Operations Facility on Deep Creek Road in Apple Valley. The proposed hydroelectric project will be constructed as a 20 cfs, 0.82 MW, 2 nozzle horizontal pelton turbine with induction generator powerhouse facility just east of the existing 48" PRV vault. Maximium annual flow through the Turbine at 20 cfs is 14,500 AF. SCE interconnection facilities will be constructed to the site.

Why this Project?

The Morrongo Basin Pipeline begins at the Antelope Siphon off the California State Water Project Aqueduct. The Morrongo Basin pipeline from the Antelope Siphon to the Rock Springs Outlet on the Mojave River is a 54" pipeline. At this location, the 48" Deep Creek Pipeline connects to the Morrongo Basin Pipeline (this pipeline continues on to the Morrongo Valley). The 48" Deep Creek Pipeline transports SWP water south along the Mojave River to a flow control valve and outlet in the Mojave River. The difference in elevation from the Antelope Siphon to the Deep Creek Outlet is approximately 530 ft (230 psi). In order to discharge SWP water into the Mojave River this pressure has to be decreased. This is done through the 30" pressure reducing sleeve valve flow control facility. This energy (pressure) is dissipated (unused). Alternatively, this same water being recharged into the groundwater basin at the Deep Creek site can flow through a hydroelectric turbine at the same location to produce renewable-certified electricity instead, which can then be exported to SCE via an electrical interconnection to the nearby distribution lines and sold through a power purchase agreement.

Actions by MWA to date:
A renewable power options study was completed for the R^3 project by RBF/R W Beck in July 2009. That was followed up with a preliminary design report for the 2.6 MW Deep Creek Hydroelectric project in May of 2011. In September 2011, SAIC (formerly RW Beck) completed a SCE CREST Interconnection Application changing the size to a 1.5 MW Project to comply with the CREST Program sizing limitations. This was followed by executing a SCE System Impact Study (SIS) in November 2011. Pre-certification for renewable energy was received in February of 2012. The SCE SIS Report was completed by SCE in August 2012, the SIS report identified an interconnection cost of $4.3 Million. In September 2012, SCE notified MWA of the Rule 21 Revisions and the "first posting of financial security" in the amount of $636,000 being due by November 26, 2012 and if not received the application will be considered to be withdrawn.The project cost was now estimated to be $9.3 million which included the interconnection cost. The total MWA costs to date for RBF, RW Beck, SAIC, and SCE application fee and SIS report was $88,975. At the October 9, 2012 E&O meeting the The total project costs were discussed and the results of the SCE SIS Report along with the required financial security deposit. The E&O Committee did not recommend to the Board payment of the financial security to SCE.

Beginning in 2014, NLine Energy (ACWA Approved Preferred Provider) was retained to reevaluate the site and determine through successive analysis of both the SCE grid interconnection costs, that a smaller, 0.8 MW generator would avoid costly upgrades to the SCE facilities. In November 2014, new feasibility studies were reviewed by E&O committee and PF&S committees which lead to a decision by the Board in Dec 2014 to authorize Phase I design services for the Deep Creek Hydro with NLine Energy. NLine Energy has now completed the 50% design and report, processed and received the FERC exemption determination, completed and filed the CEQA notice of exemption, completed the SCE interconnection application and received back SCE interconnection Report with Interconnection costs, and has received from the SCE the Interconnection Agreement & the Interconnection Facilities and Financing Agreement for a 0.8 MW hydroelectric project. In June 2016 SCE notified MWA that the interconnection costs would be $252,000. This cost was $4 million less than the 2012 SCE interconnection costs.This information was then reviewed by the E&O Committee in July 2016.

Why consider this now?
There are several time sensitive factors to consider related to the next steps for this project. First, the SCE grid in the vicinity of Deep Creek recharge site recently purged the interconnection queued projects making available 1.1 MW of grid capacity. The SCE grid is unlikely to remain unconstrained as more solar developments are installed in the surrounding area. The existing interconnection application reserves only a temporary spot in the queue for the Deep Creek Hydro project which is unlikely to be available again the near future. Second, the ReMAT and RESBCT tariffs are unlikely to remain available in the coming years as the state-wide renewable energy goals are met and exceeded; future rates are likely to be much less generous than the rates offered in these existing tariffs. Third, this Deep Creek Hydrelectric Project has now completed FERC requirements, CEQA requirements, and 50% design.

SCE Agreements:
The SCE Interconnection Agreement (GIA) and the Wholesale Distribution Service Agreement (DSA) have been provided to MWA for execution.

The Interconnection Agreement is a standard agreement developed through the PUC that sets into motion the construction of Interconnection improvements by SCE, payment of the cost by MWA of these interconnection facilities ($252,600), payment of SCE Power Purchase Agreement deposit ($20 per KW nameplate capacity = $15,200), payment of SCE interconnection Application deposit ($30,000) and specify the roles and responsibilities for this interconnection with the SCE grid. This Agreement means: 1) that SCE has complied with Fast Track Process pursuant to Section F.2 of Rule 21 and MWA will continue with the interconnection process, 2) This is not an Agreement to purchase power, 3) The term of the Agreement is 35 years, 3) MWA my terminate the Agreement at any time with 20 day notice, 4) Identifies and itemizes the Interconnection costs of $252,400 MWA will be required to pay, 5) Identifies a milestone In-service date of Oct 3, 2017 which can be extended by mutual consent, 6) Identifies the acceptable security or payment guarantee for the interconnection costs, 7) specifies insurance requirements.

The Wholesale Fistribution Service Agreement is also a standard SCE agreement. It sets a service commencement date of October 17, 2017. It requires; 1) MWA to take and pay for distribution service by provisions of Tariff, 2) 5 year forecasts of monthly deliveries, 3) payment of monthly interconnection facility charge and monthly distribution upgrade charges, 4) the participation in ISO congestion Management and special conditions protection systems resulting in shut down of the facility, 5) that the if there are 2 consecutive years on nonuse that the Agreement can be terminated.

If the Board authorizes the General Manager to enter into these agreements with SCE, then MWA will also logically move forward with final design and preparing bid and construction documents.

Final Decision to Construction the Hydroelectric Facility:
With receiving the SCE interconnection response/report and the interconnection costs the total project costs can be evaluated and the Board will determine whether to enter into the SCE Interconnection Agreement and Wholesale Distribution Agreement. If the Board decides to enter into these SCE Agreements, then MWA will need to complete the final designs in preparation for bidding out the construction and procuring the turbine and generator. The next decision point will be when the Board is asked for authorization to bid this project or procure equipment for this project. The final decision point to continue this project by the Board will be the decision to award (or not to award) a construction contract or authorization for procurement of the turbine & generator.

Prior to award of the construction/procurement contracts, staff will also present to the Board for consideration, the NLine Energy Phase III professional engineering services proposal for services through construction, startup & testing, and commissioning of the Deep Creek Hydroelectric facility.

FISCAL IMPACT

This authorization to enter into these SCE Agreements will result in payment of approx.. $300,000 in various cost to SCE. These costs are included within the approved 2015/16 Capital Budget for the Deep Creek Hydroelectric Project.

ATTACHMENTS

1) Rule 21 Generator Interconnection Agreement (GIA) For Exporting Generating Facilities Interconnecting Under Fast Track Process

2) Service Agreement for Wholesale Distribution Service (DSA)