REQUEST FOR COUNCIL ACTION CITY OF SAN DIEGO		CERTIFICATE NUMBER (FOR COMPTROLLER'S USE ONLY)
TO: CITY COUNCIL	FROM (ORIGINATING DEPARTMENT): Public Utilities	DATE: 3/12/2015
SUBJECT: Report on Electro Dialysis Reversal (EDR) Unit Relocation and Interim Salinity Control Measures at the South Bay Water Reclamation Plant (SBWRP) - Informational Report		
PRIMARY CONTACT (NAME, PHONE): ROBERT MULVEY ,(858) 292-6418, MS 901	SECONDARY CONTACT (NAME, PHONE): BARBARA SHARATZ , (858) 654-4106, MS 901	

COMPLETE FOR ACCOUNTING PURPOSES					
FUND					
FUNCTIONAL AREA					
COST CENTER					
GENERAL LEDGER ACCT					
WBS OR INTERNAL ORDER					
CAPITAL PROJECT No.					
AMOUNT	0.00	0.00	0.00	0.00	0.00
FUND					
FUNCTIONAL AREA					
COST CENTER					
GENERAL LEDGER ACCT					
WBS OR INTERNAL ORDER					
CAPITAL PROJECT No.					
AMOUNT	0.00	0.00	0.00	0.00	0.00

COST SUMMARY (IF APPLICABLE):

ROUTING AND APPROVALS

CONTRIBUTORS/REVIEWERS:		APPROVING AUTHORITY	APPROVAL SIGNATURE	DATE SIGNED
Liaison Office		ORIG DEPT.	Mulvey, Robert	03/12/2015
		CFO		
		DEPUTY CHIEF		
		COO		
		CITY ATTORNEY		
		COUNCIL PRESIDENTS OFFICE		

PREPARATION OF: ☐ RESOLUTIONS ☐ ORDINANCE(S) ☐ AGREEMENT(S) ☐ DEED(S)

This is an informational item only

STAFF RECOMMENDATIONS:
This report is information only.

SPECIAL CONDITIONS (REFER TO A.R. 3.20 FOR INFORMATION ON COMPLETING THIS SECTION)

COUNCIL DISTRICT(S):	District 8 Councilmember David Alvarez
COMMUNITY AREA(S):	East Otay Mesa Industrial Area
ENVIRONMENTAL IMPACT:	The EDR relocation project is categorically exempt from CEQA pursuant to

	State CEQA Guidelines Section 15302(c)-Replacement and Reconstruction, and 15303(e)-New Construction of Small Structures. (Information only – project update. Previously approved by DEP.)
CITY CLERK INSTRUCTIONS:	N/A

COUNCIL ACTION
EXECUTIVE SUMMARY SHEET
CITY OF SAN DIEGO

DATE: 3/12/2015
ORIGINATING DEPARTMENT: Public Utilities
SUBJECT: Report on Electro Dialysis Reversal (EDR) Unit Relocation and Interim Salinity Control Measures at the South Bay Water Reclamation Plant (SBWRP) - Informational Report
COUNCIL DISTRICT(S): District 8 Councilmember David Alvarez
CONTACT/PHONE NUMBER: ROBERT MULVEY /(858) 292-6418, MS 901

DESCRIPTIVE SUMMARY OF ITEM:
This informational report provides an update on the relocation of two Electro Dialysis Reversal (EDR) units from the North City Water Reclamation Plant (NCWRP) to the South Bay Water Reclamation Plant (SBWRP) and discusses interim Total Dissolved Solids (TDS) and chloride control measures.
STAFF RECOMMENDATION:
This report is information only.
EXECUTIVE SUMMARY OF ITEM BACKGROUND:
When the South Bay Water Reclamation Plant (SBWRP) came online in year 2002, the influent Total Dissolved Solids (TDS) concentration was well below 1200 mg/L (the regulatory limit for recycled water) and no technology to remove TDS was required or installed. However, since that time, the influent TDS has increased to a monthly average of more than 1000 mg/L. Possible sources include the raw water supply, new high flow high TDS industrial dischargers, infiltration, and groundwater discharges. As influent TDS concentrations increase, the SBWRP finds it increasingly difficult to meet the reclaimed water sale criteria of 1000 mg/L. Chloride concentrations have also been increasing, and the City has received five letters from the Regional Water Quality Control Board, San Diego Region since February 2011 citing 45 sampling events that exceeded the regulatory 30-day average chloride limit of
260 mg/L.

To reduce the TDS and chlorides in recycled water produced by the SBWRP, a Notice to Proceed on the construction and installation of two Electro Dialysis Reversal (EDR) units was issued in December 2014. The contractor is currently installing the underground feed water pump system, a pump station to direct the EDR concentrate to the Pt. Loma plant, and associated underground piping. The design-build contract was awarded at a cost of $3.88M and the full project cost is budgeted at $5.97M. There have been no construction cost overruns, and Notice of Completion of construction is anticipated in August 2015.

In the interim, permits issued to high TDS / high chloride dischargers have been modified to include an interim 1200 mg/L TDS goal, which is equivalent to the regulatory limit for recycled water. Additionally, modified permits include a 230 mg/L chloride action level which, if exceeded, triggers a requirement for industries to implement alternative brine disposal methods within 90 days, which removes the bulk of chloride and also reduces TDS in their wastewater discharge. Industries have voluntarily complied and are working closely with us as partners in achieving necessary reductions. We continue monitoring the plant to evaluate the impact of the

implemented control measures. Although it is anticipated that installing the EDRs will solve exceedences of TDS and chlorides in recycled water, a comprehensive understanding of the sources of high TDS and chlorides and the feasibility and impacts of controls will help us make informed decisions going forward. Thus, the Public Utilities Department is hiring an external consultant to identify and quantify sources of TDS and chloride to the SBWRP and evaluate alternative control strategies. The study will solicit stakeholder input.

FISCAL CONSIDERATIONS: Not applicable at this time

EQUAL OPPORTUNITY CONTRACTING INFORMATION: Not applicable

PREVIOUS COUNCIL and/or COMMITTEE ACTION: None

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:
Individual meetings with industries discharging tributary to the SBWRP.

KEY STAKEHOLDERS AND PROJECTED IMPACTS:
Key stakeholders include members of the public, industries, rate payers, and the Metropolitan Joint Powers Authority.
Impacts include costs to Metro associated with EDR operation to remove TDS and chlorides and costs industries may incur for TDS and chloride source control.

Mulvey, Robert
Originating Department

_____
Deputy Chief/Chief Operating Officer

Presentation to San Diego City Council Environmental Committee

South Bay Water Reclamation Plant (SBWRP) Total Dissolved Solids (TDS) and Chloride Levels

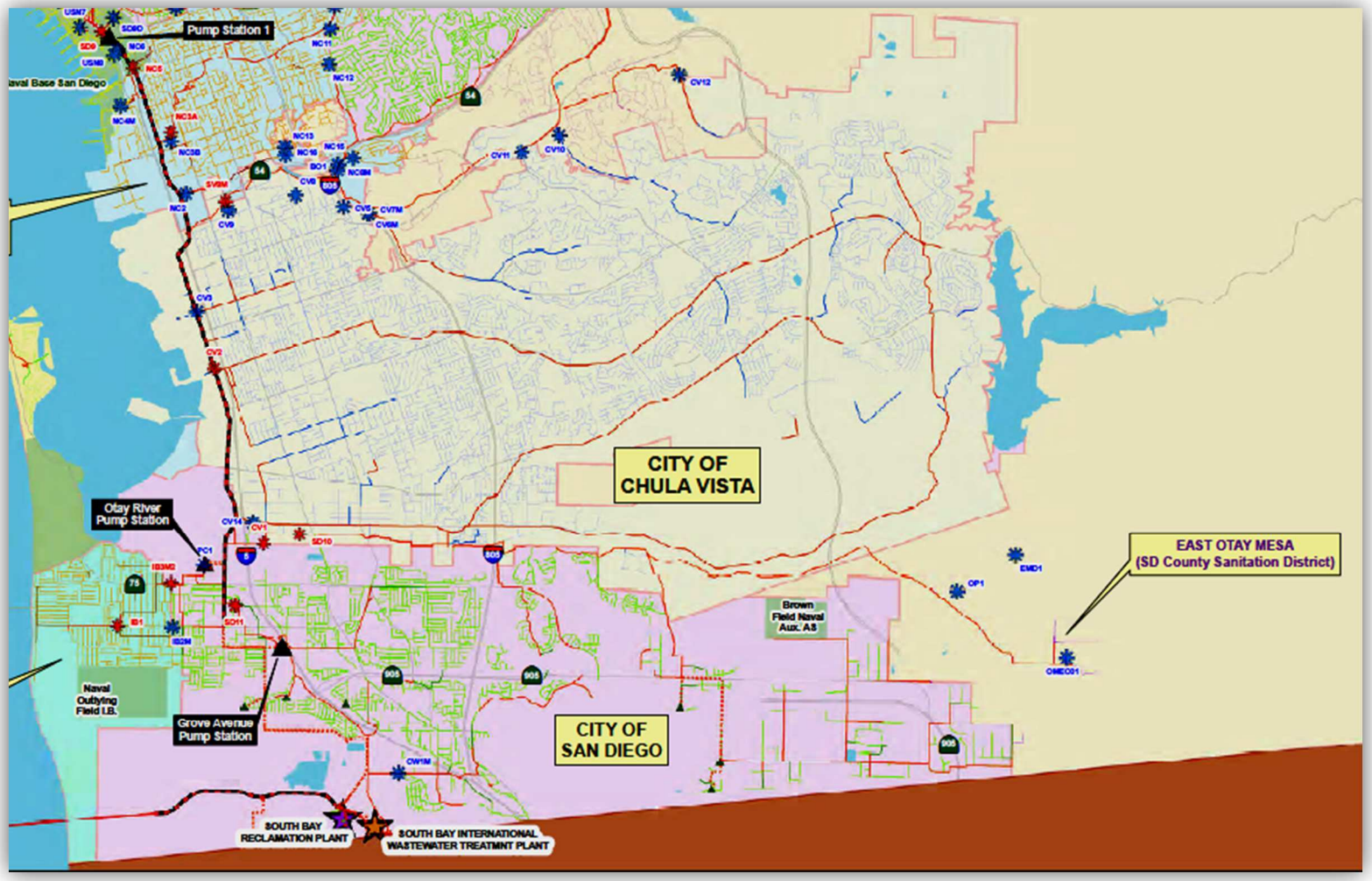
EDR Relocation Project Status and Interim Control Measures

March 25, 2015

Robert Mulvey
Assistant Director, Public Utilities Dept.

South Bay Water Reclamation Plant (SBWRP)

SBWRP Tributary Area



Background

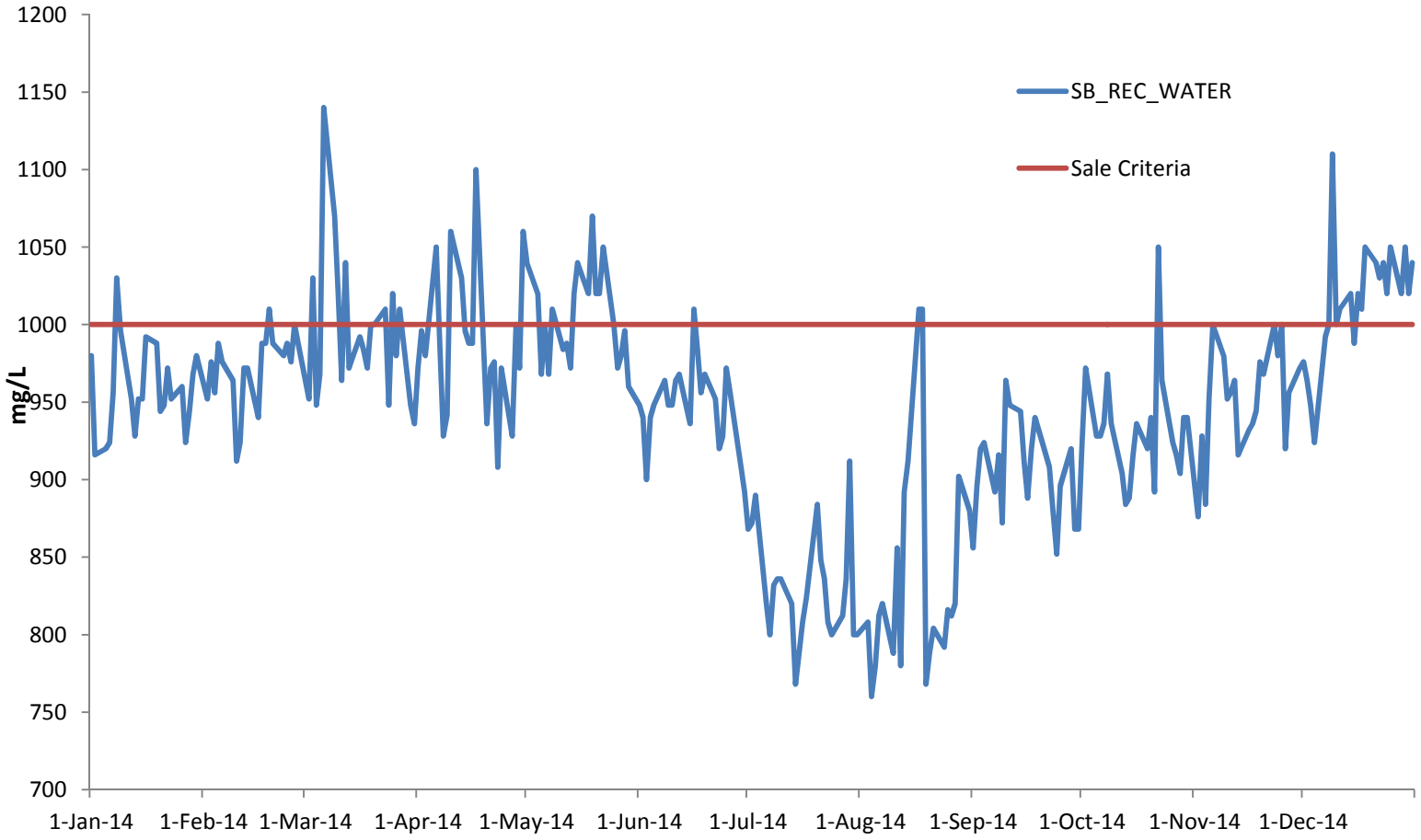
- **Recycled Water Permit Criteria:** California Regional Water Quality Control Board, San Diego Region Waste Discharge and Water Recycling Requirements

  Order No. 2000-203

  - TDS Monthly Average Limit: **1200 mg/L**
  - Chloride Monthly Average Limit: **260 mg/L**

- **Recycled Water Sale Criteria:**
  - **1000 mg/L** TDS daily maximum
- Since 2002, 6 significant new industries have located in the SBWRP tributary area with the potential to impact system salinity levels such that the sale criteria for TDS is exceeded in the influent.
- Since February 2011, 5 letters from the RWQCB cite *45 sampling events that exceeded the 260 mg/L* monthly average permit limit for chloride

SBWRP 2014 Recycled Water
Daily Total Dissolved Solids (mg/L)



TDS and Chloride Control Strategies

I. Relocate 2 Electro Dialysis Reversal (EDR) units from the North City Water Reclamation Plant to the South Bay Water Reclamation Plant

- Treat some tertiary water to reduce TDS and blend with remaining tertiary water to ensure reliable quality < 1000 mg/L TDS

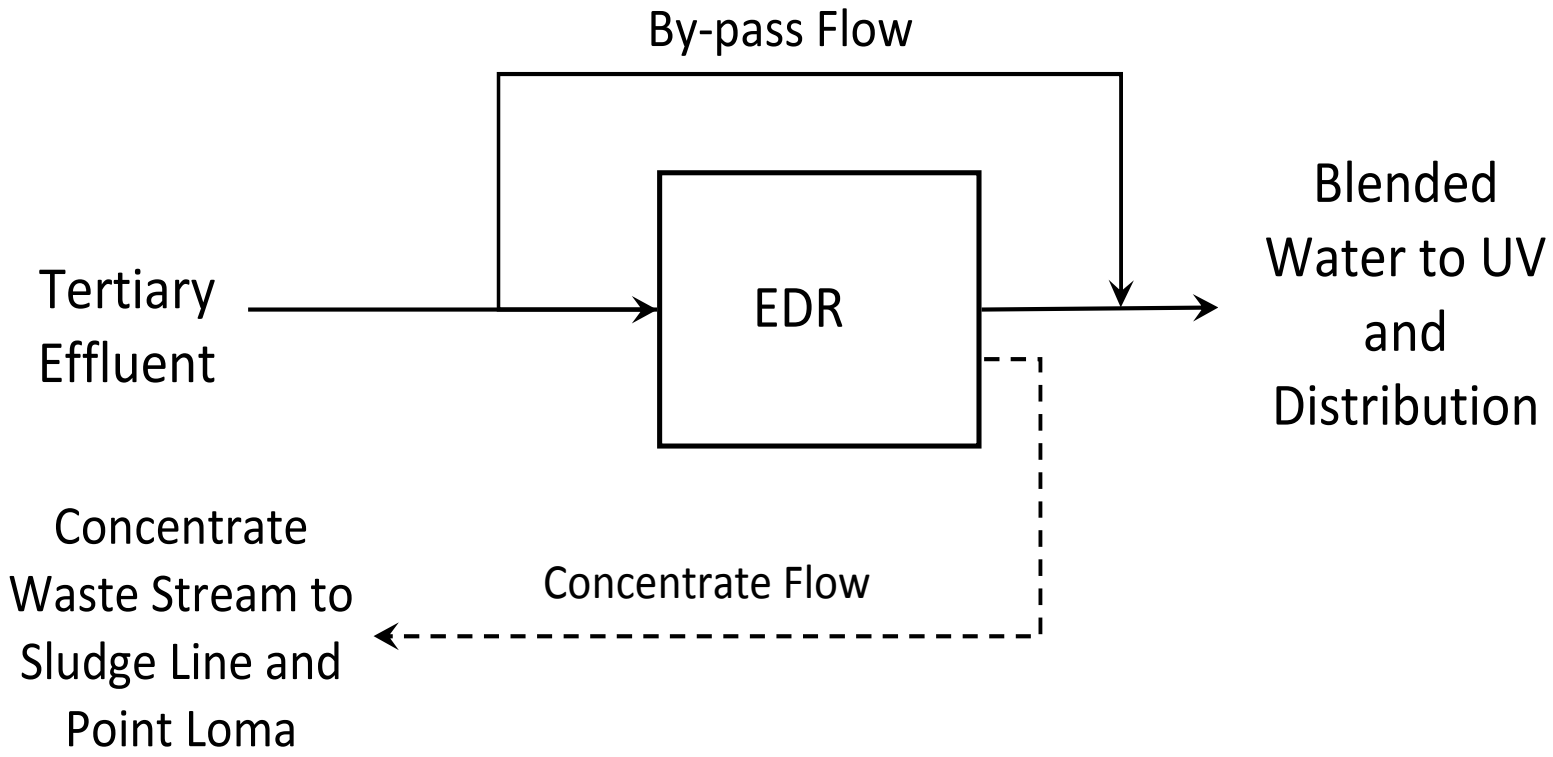
- Will also ensure the recycled water has <260 mg/L chloride

Status of EDR Relocation Project

- Notice to Proceed with Construction issued December 2014
- Currently obtaining permits to move the 2 EDR trailers to National City for corrosion and access door repairs
- Excavation and Installation of new feed water pump system and piping is underway
- Excavation and Installation of a new pump station to route EDR brine to the sludge line to Pt Loma is underway.
- Completion estimated by August 2015
- Total Relocation Costs: $3.9 M

  Annual O&M: $150,000

SBWRP Process Train



TDS and Chloride Control Strategies

II. Perform a Salinity Study:

Salinity is a measurement of the sum of the dissolved salts (ions) in water. Chloride is one of the most common of these ions. TDS is one way to measure salinity.

- Identify and quantify TDS sources
- Understand variability seen in plant influent
- Identify control alternatives and associated costs
- Solicit stakeholder input on sources and control alternatives
- Enable City and Metro to make informed and effective decisions

Pretreatment Program
Interim Salinity Control Measures

Discharge Permits for the 6 high flow high TDS Significant Industrial Users were amended to include:

- Permits were initially amended to include a 1000 mg/L TDS limit, which was subsequently relaxed to a 1200 mg/L goal in order to minimize impact industries while at the same time encouraging voluntary TDS reductions.
- 230 mg/L action level for chloride: if exceeded, implement alternative water softener brine regenerant disposal method

Results of Voluntary Compliance

Since October 1, 2014:

- 3 Food Mfrs: Permanently ceased discharge of high TDS water softener regenerant brine by capturing and hauling it to PS#1
- 2 Linen Supply Laundries: Installed reclamation systems which capture and reuse high TDS detergent and reduced flow, TDS, and chloride discharges by 50%.

Benefits:

- We are collaboratively partnering with industries to find solutions to high salinity in recycled water

Summary

- The Public Utilities Department, by installing EDR systems and working in cooperation with industries, will achieve necessary reductions in TDS and chloride concentrations in order to reliably provide quality recycled water.

- Industries have partnered with the City to implement BMPs that effectively minimize salinity in their discharges to benefit recycled water quality and the environment.

Presentation to San Diego City Council Environmental Committee

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