



## City of Biggs

### Agenda Item Staff Report For the Regular City Council Meeting: July 9, 2013

TO: Honorable Mayor and Members of the City Council

FROM: City Administrator

SUBJECT: Purchase Authorization for Substation Batteries

#### **Background:**

In the attached email and reports the Electric Superintendent and the substation maintenance contractor advise that the City replace the entire bank of batteries in the substation that supply the energy to operate the substation switching gear.

Aside from the 3 or 4 cells replaced in recent years, the bank of 37 batteries is approximately 10 years old. With their age and recent test results, the Electric Superintendent advises replacement of the entire bank at a cost of \$7,770.00 plus shipping and labor.

#### **Recommendation:**

Authorize the City Administrator to purchase the products and services necessary to replace the bank of substation batteries, not to exceed \$10,000.

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Mark Sorensen, City Administrator

## Mark Sorensen

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**From:** Daryl Dye <ddye@gridley.ca.us>  
**Sent:** Wednesday, July 03, 2013 11:38 AM  
**To:** Mark Sorensen  
**Cc:** Rob Hickey  
**Subject:** Biggs substation batteries  
**Attachments:** XHP Range X2.3 - 0104 Brochure.pdf; biggs batts0001.pdf

Mark,

As part of R&DB's annual substation maintenance for 2012-2013, Domenico has recommend replacing the substation batteries due to a rise in resistance in a number of the batteries.

The substation switch gear uses 48 volts DC to operate, this allows us to operate the gear during power outages, the battery bank consist of 37 batteries which supply the 48 volt of DC power to the substation switch gear.

A rise in resistance indicates a battery is breaking down, should enough of the batteries break down it could result in the switch gear not re-closing when required.

In the past we have been able to replace two batteries to keep the bank within an acceptable operating range, This years test indicates 9 batteries are showing sings of breaking down, due to the number of Batteries breaking down and the age of the bank it is highly recommenced the bank be completely replaced this year.

The batteries are ALCAD XHP 70, @ 210.00\$ each 210x 37= 7770.00\$ + shipping.

I have attached the battery report from Domenico, and the battery information.

All other equipment is performing well and the infrared of the substation and distribution system was normal.

I apologize for the late notice of this condition, due to Domenico work load we were unable to complete the testing earlier in the year.

When I receive the invoice from R&DB for 2012-2013 substation maintenancę I will send it to you.

Please let me know how to proceed.

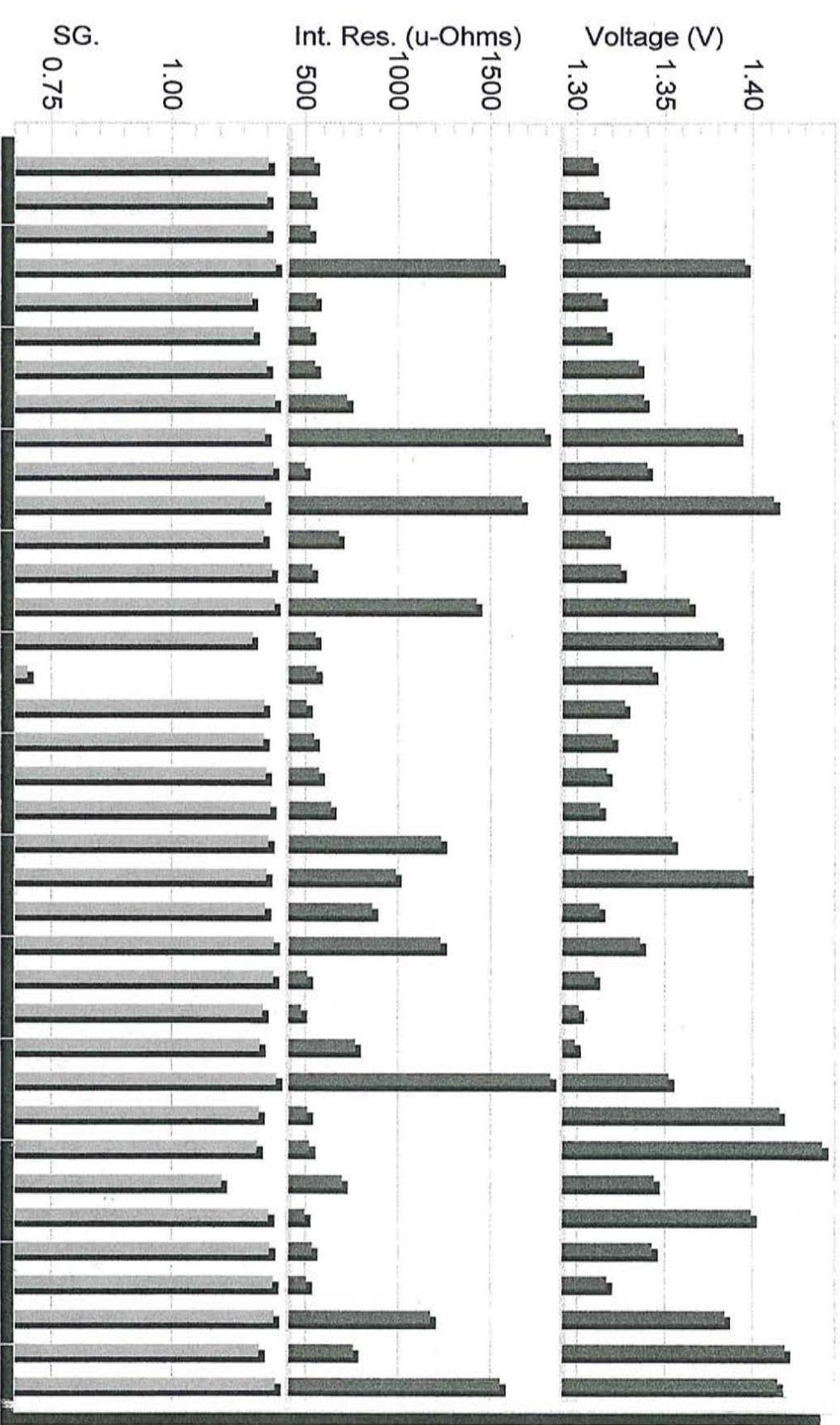
Thank You,

Daryl Dye  
City Of Gridley  
Electrical Superintendent  
(o) 530 846-5954  
(f) 530 846-8310  
[ddye@gridley.ca.us](mailto:ddye@gridley.ca.us)

Location: CITY OF BIGGS20130408  
 Battery: La Marche

Reference Dataset: No reference selected Comparison dataset: 06/29/2013

Model Number: A12B



Cell/ser Number	Voltage(Ref) Voltage	Internal Res(Ref) Internal Res	Specific Gravity(Ref) Specific Gravity
3	1.310	523.000	1.198
6	1.317	525.000	1.171
9	1.391	1795.000	1.195
12	1.316	682.000	1.192
15	1.380	553.000	1.168
18	1.320	544.000	1.191
21	1.354	1232.000	1.201
24	1.336	1230.000	1.213
27	1.299	769.000	1.184
30	1.440	521.000	1.178
33	1.343	536.000	1.204
36	1.418	757.000	1.182

Location Name: CITY OF BIGGS201304C

Battery Name: La Marche

String Name:

Battery Model: A12B

Install Date: 02/18/03

Read Date: 06/29/13

Strings: 1

Cells: 37

Cell #	Voltage	Internal Res	Intercell R1	Intercell R2	R3	R4	Temperature	Specific Gravity
1	1.309	543	31	0	0	0	94.4	1.201
2	1.315	528	36	0	0	0	96.5	1.198
3	1.310	523	35	0	0	0	94.3	1.198
4	1.395	1548	33	0	0	0	94.3	1.216
5	1.314	556	38	0	0	0	94.5	1.168
6	1.317	525	34	0	0	0	93.6	1.171
7	1.335	549	41	0	0	0	90.6	1.198
8	1.338	725	32	0	0	0	90.5	1.215
9	1.391	1795	30	0	0	0	90.0	1.195
10	1.340	495	29	0	0	0	89.6	1.212
11	1.412	1671	36	0	0	0	88.9	1.195
12	1.316	682	36	0	0	0	88.8	1.192
13	1.325	535	214	0	0	0	88.5	1.209
14	1.364	1423	30	0	0	0	88.3	1.214
15	1.380	553	31	0	0	0	88.4	1.168
16	1.343	560	32	0	0	0	88.7	0.701
17	1.327	505	33	0	0	0	88.8	1.192
18	1.320	544	30	0	0	0	89.5	1.191
19	1.317	573	42	0	0	0	90.5	1.196
20	1.313	637	40	0	0	0	91.6	1.205
21	1.354	1232	30	0	0	0	93.1	1.201
22	1.397	988	30	0	0	0	93.9	1.197
23	1.313	862	41	0	0	0	94.3	1.195
24	1.336	1230	36	0	0	0	94.5	1.213
25	1.310	510	211	0	0	0	96.7	1.212
26	1.301	478	32	0	0	0	98.8	1.190
27	1.299	769	33	0	0	0	99.3	1.184
28	1.352	1824	43	0	0	0	98.4	1.218
29	1.415	510	43	0	0	0	98.0	1.182
30	1.440	521	32	0	0	0	97.1	1.178
31	1.344	699	32	0	0	0	96.0	1.104
32	1.399	497	40	0	0	0	94.3	1.202
33	1.343	536	33	0	0	0	93.0	1.204
34	1.317	505	31	0	0	0	91.7	1.211
35	1.384	1174	31	0	0	0	90.5	1.212
36	1.418	757	33	0	0	0	89.7	1.182
37	1.414	1551	3	0	0	0	88.9	1.215
Maximum	1.440	1824	214	0	0	0	99.3	1.218
At Cell #	30	28	13				27	28
Average	1.349	813.9	43.2	0.0	##	0.0	92.7	1.182