

Line No.	Description
1	Air Conditioner
2	Air Heater System
3	Air Heater System-Control
4	Air Heater System-Station Piping
5	Air Quality Control System
6	Air Quality Control System-Control
7	Air Quality Control System-Motor
8	Air Quality Control System-Station Piping
9	Alarm-Annunciator System
10	Analyzer
11	AR15 Communication Equip-EMS
12	AR15 Communication Equipment
13	AR15 Communication Equip-Two Way
14	AR15 Laboratory Equipment
15	AR15 Miscellaneous Equipment
16	AR15 Network Equipment
17	AR15 Office Furniture & Equipment
18	AR15 Power Operated Equipment
19	AR15 Property-Life 25 Years
20	AR15 Stores Equipment
21	AR15 Tools/Shop/Garage Equipment
22	AR15 Transportation Eq-Automobiles
23	AR15 Transportation Eq-Heavy Trucks
24	AR15 Transportation Eq-Light Trucks
25	AR15 Transportation Eq-Trailers
26	ARC-Elec Distribution
27	ARC-Elec General
28	ARC-Elec Other Production
29	ARC-Elec Steam Production
30	ARC-Elec Transmission
31	Arrester 34.5KV
32	Arrester 44KV
33	Arrester 69KV
34	Arrester 115KV
35	Arrester 230KV
36	Arrester 345KV
37	Arrester Distribution
38	Arrester-Polarization Cell

Line No.	Description
39	Auxiliary Boiler
40	Battery Storage
41	Battery Storage Station
42	Boiler
43	Boiler Blowdown System
44	Boiler Blowdown System-Control
45	Boiler Blowdown System-Station Piping
46	Boiler-Control
47	Bookcase, (All Sizes And Materials)
48	Bottom Ash System
49	Bottom Ash System-Station Piping
50	Bridge
51	Building Cooling Plant
52	Building Garage
53	Building Generating Station
54	Building Maint Equip (Buffers, Floor Machines, Etc.)
55	Building Office
56	Building Other
57	Building Service Center
58	Building Station Control
59	Building Warehouse
60	Cabinet Storage
61	Cabinet Switching
62	Calculator (Hand or Desk Type)
63	Cameras & Equipment (Inc Flash, Darkroom, Binoculars)
64	Capacitor Bank 34.5KV
65	Capacitor Bank 44KV
66	Capacitor Bank 69KV
67	Capacitor Bank 88KV
68	Capacitor Bank 115KV
69	Capacitor Bank 230KV
70	Capacitor Bank Switched Distribution
71	Capacitor Distribution
72	Car Railroad Coal
73	Chair (All Types)
74	Charger Battery
75	Charger Battery Station
76	Chemical Feed System

Line No.	Description
77	Chromatograph
78	CIAC
79	Circuit Breaker 34.5KV
80	Circuit Breaker 69KV
81	Circuit Breaker 115KV
82	Circuit Breaker 138KV
83	Circuit Breaker 230KV
84	Circuit Breaker 345KV
85	Circuit Breaker 500KV
86	Circuit Breaker Distribution
87	Circulating Water System
88	Circulating Water System-Control
89	Circulating Water System-Motor
90	Circulating Water System-Station Piping
91	Cleaner Equipment
92	Coal Feeder System
93	Coal Feeder System-Motor
94	Coal Handling System
95	Coal Handling System-Control
96	Coal Handling System-Conveyor
97	Coal Handling System-Hopper
98	Communication Equipment-10 yr
99	Communications Equipment Antenna Tower
100	Communications Equipment Microwave
101	Communications Equipment Radio
102	Communications Equipment Satellite
103	Communications Equipment Telephone
104	Communications Equipment Type Unknown
105	Compressed Gas System-Station Piping
106	Compressor Air
107	Computer Equipment
108	Condensate System
109	Condensate System-Motor
110	Condensate System-Station Piping
111	Condensate System-Tank
112	Condenser
113	Condenser-Station Piping
114	Conductor Overhead

Line No.	Description
115	Conductor Overhead Secondary
116	Conductor Underground
117	Conductor Underground Secondary
118	Conduit
119	Control-General
120	Controller
121	Controls
122	Controls Station
123	Controls-Computer System-Plant Process
124	Converter Phase Distribution
125	Cooler Elec Trans
126	Cooling Tower System
127	Cooling Tower System-Control
128	Cooling Tower System-Motor
129	Cooling Tower System-Station Piping
130	Cooling Tower System-Tank
131	Cooling Water System
132	Cooling Water System-Motor
133	Cooling Water System-Station Piping
134	Cooling Water System-Tank
135	Crane and Hoist System
136	Credenza
137	Cubicle for Metal Clad Switchgear Distribution
138	Deaerator
139	Desk (All Types And Materials)
140	Device Potential
141	Diesel Generator System
142	Display Equipment
143	Duct Bank
144	Dust Collection System
145	Dust Control System
146	Electro Hydraulic System-Station Piping
147	Electronic Data Transmission
148	Equipment Foundation
149	Equipment Mechanical
150	Equipment, Other, Not Listed Above (Ladders, Stools)
151	Exciter
152	Fault Interrupter Distribution

Line No.	Description
153	Fault Interrupter 69KV
154	Fault Interrupter 115KV
155	Fault Interrupter 230KV
156	Fault Interrupter 345KV
157	Feedwater System
158	Feedwater System-Control
159	Feedwater System-Motor
160	Feedwater System-Station Piping
161	Fence
162	Fiber Optic
163	File And Storage Cabinets (All Types)
164	Filter-Separator-Strainer System
165	Fire Detection System
166	Fire Protection System
167	Fire Protection System-Control
168	Fire Protection System-Station Piping
169	Flue Gas Reheater System-Station Piping
170	Fly Ash Disposal System
171	Fly Ash Disposal System-Motor
172	Fly Ash Disposal System-Station Piping
173	Forced Draft Fan System
174	Forced Draft Fan System-Control
175	Forced Draft Fan System-Motor
176	Foundation Transformer Electric Distribution
177	Fuel Transfer System
178	Fuel Transfer System-Control
179	Fuel Transfer System-Motor
180	Fuel Transfer System-Station Piping
181	Furniture, Other (Not Listed Above)
182	Fuse Expulsion Link 115KV
183	Fuse Mounting 34.5KV
184	Fuse Mounting 69KV
185	Fuse Mounting 115KV
186	Fuse Mounting Distribution
187	Gas Injection-Recirc Fan System
188	Gas Turbine
189	Gas Turbine Lube Oil System
190	Gas Turbine Lube Oil System-Control

Line No.	Description
191	Gas Turbine-Control
192	Gas Turbine-Motor
193	Gas Turbine-Station Piping
194	General
195	Generator
196	Generator Cooling and Purge System
197	Generator Cooling and Purge System-Control
198	Generator Cooling and Purge System-Station Piping
199	Generator Emergency Power Supply
200	Generator Liquid Cooling System
201	Generator Seal Oil System
202	Generator Standby
203	Generator-Control
204	Generator-Station Piping
205	Heat Exchanger
206	Heat Recovery Steam Generator-Station Piping
207	Heater Vents and Drains System-Station Piping
208	Hoists, Lifters and Jacks
209	Hydrogen Supply System
210	Induced Draft Fan System
211	Induced Draft Fan System-Motor
212	Induced Draft Fan System-Station Piping
213	Installation Circuit Breaker
214	Installation Reactor
215	Installation Transformer
216	Installation Transformer Auto
217	Instrument Air System
218	Instrument Air System-Station Piping
219	Intake Screens System
220	Inverter
221	Kitchen Appliances
222	Lab Equipment, Chemical
223	Lab Furniture
224	Lab Hydroblast Equipment
225	Lab Testing Equipment
226	Laboratory Equipment-10 yr
227	Land Owned In Fee (Non Depreciable)
228	Luminaire

Line No.	Description
229	Main Steam System
230	Main Steam System-Control
231	Main Steam System-Station Piping
232	Material Handling Equipment
233	Metallurgical Equipment
234	Meter Electric
235	Meter Ph
236	Metering Primary Distribution-Installation
237	Metering Primary-Installation
238	Meters and Gauges (All Types)
239	Minor Item-Insulator
240	Minor Item-Pole Trussing
241	Miscellaneous Tools
242	Mobile Lab Test Equipment
243	Monitoring System - Environmental
244	Monitoring System - Loose Parts
245	Monitoring System - Station
246	Monitoring System-Continuous Emissions
247	Monitoring System-Emission Analyzer
248	Motor Control Center
249	Network Equipment
250	Network Protector Distribution
251	Non-classified Property
252	Non-unitized
253	NOX Control Equipment
254	Office Equipment, Electronic (Copiers, Faxes, Mailers, Etc.)
255	Oil Storage System
256	Pedestrian
257	Plant Electrical Distribution System
258	Platform Switching
259	Pole Not Wood
260	Pole Wood
261	Pole, Cross Arm
262	Pole, Insulated Cross Arm
263	Pond
264	Potable Water System
265	Potable Water System-Station Piping
266	Power Line Carrier Coupling Capacitor 69KV

Line No.	Description
267	Power Line Carrier Coupling Capacitor 115KV
268	Power Line Carrier Coupling Capacitor 230KV
269	Power Line Carrier Coupling Capacitor 345KV
270	Power Line Carrier System
271	Power Supply
272	Power Supply Solar
273	Power Supply Uninterruptible
274	Precipitator/Ash Collection Syst
275	Precipitator/Ash Collection Syst-Control
276	Primary Air System
277	Primary Air System-Motor
278	Pump
279	Railway System
280	Reactor 69KV
281	Reactor 115KV
282	Reactor 230KV
283	Reactor 345KV
284	Reactor Distribution
285	Reactor UNKV
286	Recloser
287	Recorder Electric Metering
288	Rectifier
289	Regulator Gas
290	Regulator Voltage 69KV
291	Regulator Voltage Auto Booster Distribution
292	Regulator Voltage Single Phase Distribution
293	Regulator Voltage Three Phase 44KV
294	Regulator Voltage Three Phase Distribution
295	Reheat Steam System
296	Reheat Steam System-Control
297	Reheat Steam System-Station Piping
298	Reservoir
299	Right of Way (Depreciable)
300	Right of Way (Non-Depreciable)
301	Road
302	Safety Equip (Inc Fire, Breathing, Resuscitation, Etc.)
303	Sampling System
304	Sectionalizer Distribution

Line No.	Description
305	Sectionalizer Oil Distribution
306	Service Electric Overhead
307	Service Electric Underground
308	Shelves And Lockers
309	Site Grounding System
310	Site Security System
311	Software
312	Soot Blowing System
313	Soot Blowing System-Control
314	Soot Blowing System-Station Piping
315	Spectrophotometer
316	Sta Piping Usage Unknown
317	Stack
318	Stack-Muffler/Silencer
319	Standard
320	Station Air System
321	Station Controls
322	Station Piping
323	Station Wiring
324	Station/Auxiliary Transformer
325	Steam Turbine
326	Steam Turbine-Station Piping
327	Stores Equipment
328	Structure Substation Equipment and Bus 34.5KV
329	Structure Substation Equipment and Bus 69KV
330	Structure Substation Equipment and Bus 115KV
331	Structure Substation Equipment and Bus 138KV
332	Structure Substation Equipment and Bus 230KV
333	Structure Substation Equipment and Bus 345KV
334	Structure Substation Equipment and Bus Distribution
335	Structure Substation Equipment and Bus UNKV
336	Substation Package Unit-Installation
337	Substation Package Unit-Mobile
338	Substation Portable 115 69-44-13KV
339	Substation Portable 115-25 13KV
340	Substation Portable 115-69 13KV
341	Substation Portable 44-25 4Kv
342	Substation UEC Ownership

Line No.	Description
343	Survey Equipment
344	Switch Cabinet Distribution
345	Switch Disconnect 34.5KV
346	Switch Disconnect 69KV
347	Switch Disconnect 88KV
348	Switch Disconnect 115KV
349	Switch Disconnect 230KV
350	Switch Disconnect 345KV
351	Switch Disconnect 500KV
352	Switch Disconnect Distribution
353	Switch Disconnect UNKV
354	Switch Gang 34.5KV
355	Switch Gang 44KV
356	Switch Gang 69KV
357	Switch Gang 115KV
358	Switch Gang 230KV
359	Switch Gang 345KV
360	Switch Gang Distribution
361	Switch Gang Grounding 69KV
362	Switch Gang Grounding 115KV
363	Switch Gang Grounding 230KV
364	Switch Gang Oil Distribution
365	Switch Oil Distribution
366	Switch Operator Auto Hydraulic With Cabinet Controls and Relays
367	Switch Vacuum Capacitor 69KV
368	Table (All Sizes, Types And Materials)
369	Tank
370	Termination
371	Testers
372	Tools Shop Type
373	Tools, Air
374	Tools, Electric
375	Tools, Gas or Diesel
376	Tools, Hand
377	Tools, Hydraulic
378	Tower
379	Tower Substation Deadend 34.5KV
380	Tower Substation Deadend 69KV

Line No.	Description
381	Tower Substation Deadend 115KV
382	Tower Substation Deadend 230KV
383	Tower Substation Deadend 345KV
384	Transf Grounding No Information
385	Transformer Auto 600V and Less
386	Transformer Grounding Single Phase Distribution
387	Transformer Grounding Three Phase Distribution
388	Transformer Instrument Current Potential Voltage Constant Current Voltage
389	Transformer Line (Retirement Use Only)
390	Transformer Line Amortized
391	Transformer Line Overhead Single Phase
392	Transformer Line Overhead Three Phase
393	Transformer Line Underground Single Phase
394	Transformer Line Underground Three Phase
395	Transformer Metering Potential and Current Primary Distribution
396	Transformer Metering Potential and Current Secondary 600V and Less
397	Transformer Potential Device
398	Transformer Single Phase 600V and Less
399	Transformer Special Control
400	Transformer Special Insulating
401	Transformer Special Isolating
402	Transformer Special Low Voltage
403	Transformer Special Single phase
404	Transformer Special Three phase
405	Transformer Special Voltage 230KV
406	Transformer Special Voltage 345KV
407	Transformer Special Voltage KV Unknown
408	Transformer Start-up
409	Transformer Station/Aux
410	Transformer Substation 44KV
411	Transformer Substation 69KV
412	Transformer Substation 115KV
413	Transformer Substation 230KV
414	Transformer Substation 345KV
415	Transformer Substation Auto 115KV
416	Transformer Substation Auto 230KV
417	Transformer Substation Auto 345KV
418	Transformer Substation Single Phase Distribution

Line No.	Description
419	Transformer Substation Three Phase Distribution
420	Transformer Three Phase 600V and Less
421	Transportation Class 2 Pickups, Small Trucks & Vans
422	Transportation Class 4 Large Trucks
423	Transportation Class 7 Cranes
424	Transportation Class 8 Welders, Air Compressors, Ditchers
425	Transportation Class O Airplanes
426	Turbine
427	Turbine Crane
428	Turbine Crane-Motor
429	Turbine Lube Oil System
430	Turbine Lube Oil System-Tank
431	Turbine-Station Piping
432	Typewriter
433	Valve
434	Valve
435	Valve Control
436	Vapor Recovery Unit
437	Vault
438	Video & Audio Equipment
439	Waste Solid Disposal System
440	Waste Solid Disposal System-Station Piping
441	Water Management System
442	Water Management System-Station Piping
443	Water Right
444	Water Sampling System
445	Water Supply System
446	Water Supply System-Motor
447	Water Supply System-Station Piping
448	Water Supply System-Well
449	Water Treatment System
450	Water Treatment System-Control
451	Water Treatment System-Station Piping
452	Well
453	Well Environmental
454	Well Water
455	Well Water-Control
456	Well Water-Motor

Line No.	Description
457	Well Water-Station Piping
458	Well Water-Well
459	Yard Equipment (Mowers, Edgers, Snow Equipment, Etc.)
460	Yard Improvements

Maintenance Man-Hour Ratio

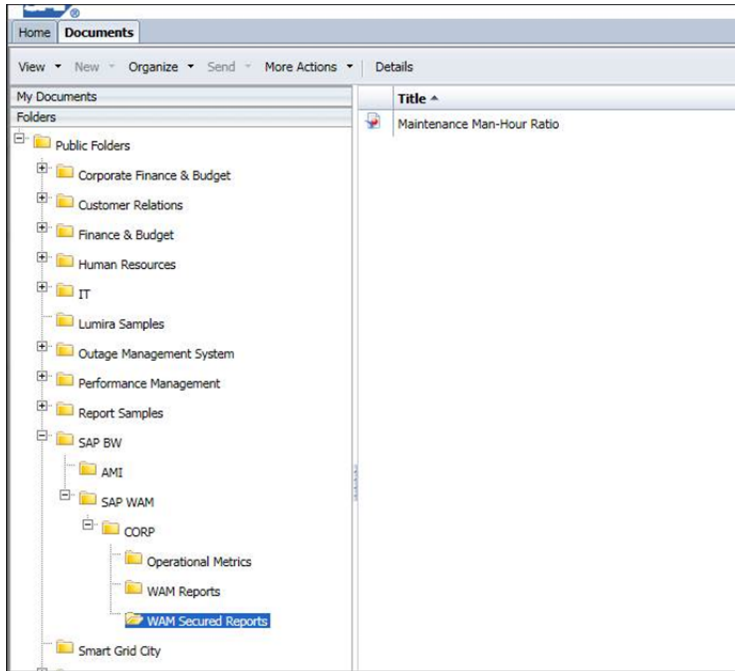
Data for the Test Year (April 1, 2018 through March 31, 2019) came from the SAP work management database implemented in February 2017 requiring this Business Objects Report.

The man-hours were provided for the following work order types:

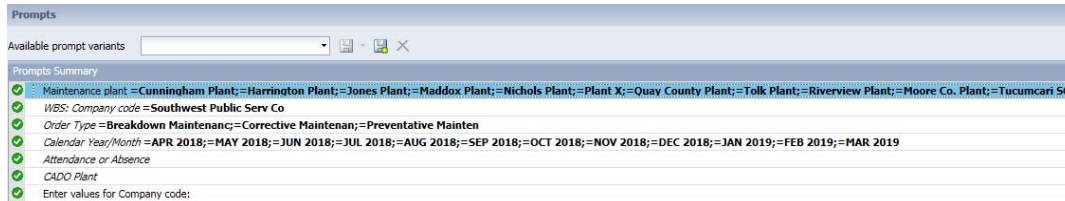
- **Breakdown Maintenance (BD):** Maintenance that is performed when the equipment has failed and no longer performs the function that it was designed for.
- **Corrective Maintenance (CM):** Maintenance that is performed when the equipment is functional but has observed signs of improper operations. Equipment has something wrong, but is still operating.
- **Preventive (Periodic) Maintenance (PM):** Maintenance that is scheduled and performed on a regular basis, and is either time or condition directed.

1. Run the Business Objects Report

- a. Public Folders
- b. SAP BW
- c. SAP WAM
- d. Corp
- e. WAM Secured Reports
 - i. Maintenance Man-Hour Ratio (**Secured Report**)



2. Run the report with the following parameters (this example captures the test year).



3. Copy the report to Excel Spreadsheet
a. Run a pivot table on the data

Drag fields between areas below:

Report Filter	Column Labels
WBS Hier. Lvl 2	Order type
WBS Hier. Lvl 4	
WBS Hier. Lvl 4 - Key	
Row Labels	Σ Values
Plant	Sum of Actual Time
Func Loc Hier.Lvl 3 - Key	

WBS Hier. Lvl 2	(Multiple Items)	↓
WBS Hier. Lvl 4	(All)	↓
WBS Hier. Lvl 4 - Key	(All)	↓

Sum of Actual Time	Order type				
Plant	Func Loc Hier.Lvl 3 - Key	Breakdown Maintenanc	Corrective Maintenanc	Preventative Mainten	Grand Total
Carlsbad Plant	ES-CHC-000		29		29
Carlsbad Plant Total			29		29
Cunningham Plant	ES-CHC-000	44	1338	1233.5	2615.5
	ES-CHC-001	49	1243.5	8722.95	10015.45
	ES-CHC-002	370	2443.25	9022.8	11836.05
	ES-CHC-003	28	247.5	280.5	556
	ES-CHC-004	912.25	836	295	2043.25
Cunningham Plant Total		1403.25	6108.25	19554.75	27066.25
Harrington Plant	ES-HAR-000	511	2578	5639	8728
	ES-HAR-001	1096	5570	6861.75	13527.75
	ES-HAR-002	1362.75	5542	5692.7	12597.45
	ES-HAR-003	1493.5	5497.75	6636	13627.25
Harrington Plant Total		4463.25	19187.75	24829.45	48480.45
Jones Plant	ES-JON-000	564	5212.2	2072.6	7848.8

We need to filter WBS Hier. Lvl 2 to remove the hours from overhauls. Uncheck those events that have an OM in the title (ex. CHC 2 OM: Cunningham 2)

WBS Hier. Lvl 2	WBS Hier. Lvl 5 - Key
CHC 2 OM: Cunningham 2	A.0001545.987.003.001.18

Please validate this with the financial analyst in making sure this is true with overhauls.

- Total the hours for the Plant as per the type of generation (coal, gas, CT) for breakdown, corrective and preventive maintenance.

Schedule H-11.3 O&M Cost per MWh

The source for generation values in Schedule H-11.3 is the Southwestern Public Service Company (“SPS”) NERC GADS database (Meridium). The source for cost values is from spreadsheets prepared by Corporate Finance using Xcel Energy corporate databases.

Steam Power Generation (FERC Accounts)

Coal Units: Harrington & Tolk.

Gas Units: Cunningham 1&2, Jones 1&2, Maddox 1, Moore Co, Nichols, Plant X.

Operations costs included FERC accounts 500, 502, 503, 504, 505, 506, 507, 508, and 509.

Maintenance costs included FERC accounts 510, 511, 512, 513, 514, and 515.

Other Power Generation (FERC Accounts)

Combustion Turbines (CT): Carlsbad, Cunningham 3&4, Jones 3&4, Maddox 2&3, Quay, Riverview.

Other: Celanese, Tucumcari.

Operations costs included FERC accounts 546, 548, 549, 550 and 550.1.

Maintenance costs included FERC 551, 552, 553, 554 and 554.1.

The general ledger data was used to sort expenses by plants and service organizations. An allocation process was used to allocate service organization expenses to each plant. The data was then summarized for each plant and the data was entered into the Schedule spreadsheet.

Generation data for the past five years and the Test Year (12 months ended March, 2019) were entered into Schedule H-11.3.

Using the generation and cost data in Schedule H-11.3, “Cost per MWh” was calculated for Operations, Maintenance, and Total O&M. The information is sorted by Plant and grouped by fuel type (coal, gas, CT, and other).