

**CITY COUNCIL STUDY SESSION ITEM**

**SUBJECT**

Electrical Facilities Utilities Element Comprehensive Plan Amendment (CPA) work program

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**POLICY ISSUES**

Council Resolution No. 7107 (December 2004) directs work on Comprehensive Plan Amendments to address the siting or expansion of electrical substation facilities. The Resolution explicitly calls for addressing both “the protection of residential neighborhoods from incompatible facilities, and the needs of Puget Sound Energy to provide sufficient electrical energy to service the growing demand of Downtown Bellevue and other commercial areas.”

Tonight’s study session provides an update on this work program. This work has become more time-sensitive as the City continues to experience strong land use growth Downtown and elsewhere; PSE must upgrade its systems to keep abreast of growing demand from this development.

**DIRECTION NEEDED FROM COUNCIL**

<u>    </u>	Action
<u>  X  </u>	Discussion
<u>  X  </u>	Information

The purpose of tonight’s briefing is to update Council on this CPA work program; no formal action is requested.

**BACKGROUND/ANALYSIS**

The Council adopted Resolution No. 7107 in late 2004, following a difficult review process for the expansion of the Lochleven substation near Downtown. The direction from Council was that the City needed to develop a policy framework that more explicitly balances the protection of neighborhood character with the need to expand electrical system capacity. The Council has received one earlier briefing, in September 2006, on the work responding to this Resolution. At that time, staff presented:

- Background on the GMA-defined responsibilities for [electrical] utilities elements and how Bellevue currently implements these by including in the Comprehensive Plan schematic maps of the existing and planned utility facilities intended to serve the greater Bellevue area
- Existing Bellevue Comprehensive Plan policy applicable to electrical facilities
- A draft City-wide screening assessment of the existing electrical supply system plan, to identify electrical facilities that could have potentially significant neighborhood impacts (Attachment 1).
- Updates on natural gas infrastructure issues, growth forecasts, and electrical system expansion needs.

Since then, the Planning Commission has attended a field tour of Bellevue-area electrical facilities, and conducted a number of study sessions to work on policy and regulatory refinements that address the issues raised by the Council resolution.

### **Draft Conceptual Framework**

An underpinning of the work to date is the City's responsibility under the Growth Management Act to work with utility providers to plan for the system capacity to adequately serve the city's Comprehensive Plan. Bellevue implements this responsibility by schematically mapping the serving utility's existing and planned system build out, and incorporating this map (existing Figure UT-5) into the Utilities Element of the Comprehensive Plan. The Comprehensive Plan is thus a record of the overall planned expansion and specific anticipated facilities.

### Emerging Policy Refinements

To address the neighborhood character issues at the heart of Resolution No. 7107, primarily issues of visual impacts, the approach under consideration by the Planning Commission would modify Figure UT-5 in two significant ways:

- For existing substation facilities identified by PSE for expansion, the Comprehensive Plan map would identify those that are anticipated to have significant issues of neighborhood compatibility, and those that apparently do not present major compatibility issues. This compatibility rating would have important regulatory implications, as described below. Incompatibilities may arise either from the location of the substation itself, or from the siting of associated transmission lines needed to feed the facility. The screening matrix in Attachment 1 is the basis for the compatibility ratings that would be translated into this Comprehensive Plan map.
- For new substation facilities, the Comprehensive Plan map would show a potential siting area rather than, as in the current Plan, a specific point location. This is a departure from the existing Comprehensive Plan, which identifies what appear to be specific point locations for these new substations. This approach would clarify that within the identified siting area, a range of alternative substation locations should be evaluated.

Additional policy refinements would address the need for appropriate site mitigation (e.g. technology, facility design, screening, landscaping) to minimize visual impacts and make facilities compatible with their neighborhood context for all these various classes of substation siting or expansion.

In summary, these Comprehensive Plan refinements will identify which facilities are likely to require higher levels of siting analysis and mitigation. They will also provide the community with information about site selection and facility need, and assure them that appropriate mitigation will be required to reduce visual impacts.

### Emerging Regulatory Refinements

While this work is still in development, it is anticipated that the regulatory process will follow two paths related to the Comprehensive Plan map described above:

- For new substations, and for expansion of substation facilities that, per the Utilities Element map, may present significant issues of neighborhood compatibility, a process of alternative siting analysis would be required. The utility would need to identify a number of alternative sites that meet its system needs, review these sites for system functionality and neighborhood compatibility, "show its work," and select a feasible site that minimizes these neighborhood impacts.
- For substations that, per the Comprehensive Plan map, are not anticipated to present major compatibility issues, this alternative siting process would not be required.
- In both cases, the regulatory process would address appropriate mitigation, consistent with the policy framework described above.

### **Public/Stakeholder Involvement**

As directed by Resolution No. 7107, staff have continued to involve neighborhood associations and Puget Sound Energy (PSE) in the process of developing these amendments to the Comprehensive Plan. The City hosted an April 18, 2007 open house where neighborhood associations and residents shared feedback about siting issues important

to neighborhoods. City staff have met with specific area stakeholders in the Lochleven area, and have attended a meeting of the Lake Hills Community Association (an area anticipated to be affected by the siting of a new transmission line). Staff are also working through the Neighborhood Liaisons and Neighborhood Outreach group to secure community feedback about electrical facility siting and mitigation issues.

City staff also continue to coordinate with PSE on this work program, and PSE staff have been present as a resource at Planning Commission meetings and the open house where this item has been discussed. PSE has also been pursuing substation improvements in a manner consistent with the emerging policy framework described herein. They have applied for a Conditional Use permit to expand the Factoria substation, an expansion that in the staff screening matrix was not identified as raising significant neighborhood compatibility issues. As part of that application, PSE has committed to engage the community in a manner consistent with the initial policy concepts under development, including public meetings and neighborhood notification (to increase community understanding and transparency), and site design that maintains visual screening. They are also in the early stages of an alternative site evaluation process for the Ardmore substation, a new facility.

### **Relationship of this work to system reliability issues raised by the December 2006 storm**

The Council adopted Resolution No. 7107 well in advance of the major storm and extensive power outages of December 2006. Since that storm event, PSE and the City have held a number of discussions about lessons learned, including various approaches to “hardening” the electrical system to make it more reliable in the face of storms and other disruptions. The most recent discussion occurred at the July 9 Council study session.

It is anticipated that these discussions of undergrounding and other storm reliability approaches will continue, with PSE and the City’s franchise manager taking the lead in a parallel effort with this CPA work program. Given the need to have an updated policy and regulatory framework in place as PSE expands its capacity to keep up with land use growth, staff recommends that the City continues to keep the substation and storm reliability efforts on parallel tracks, with the substation work wrapping up prior to the related work on storm reliability. The substation work itself makes a contribution to electrical system reliability. This is because expansion of substation capacity and related feeder transmission lines provides for alternative power feeds when a portion of the system is disrupted.

### **Electric and Magnetic Fields (EMF)**

Utilities Element Policy UT-70 directs as follows: “Review periodically the state of scientific research on EMF and make changes to policies if the situation warrants.” This was seen as a key issue in 1993-94 when the current Utilities Element was under development. As part of the current policy review, the Planning Commission has made it clear that such a periodic review is needed, and this work is underway through a consultant. The scope of this work includes an update of research on the impacts of EMF on human health, EMF levels associated with typical electrical utility facilities, and other jurisdictional approaches to incorporating this information into local land use regulation. From preliminary work so far, it is not anticipated that this research update will have a major impact on the current work program.

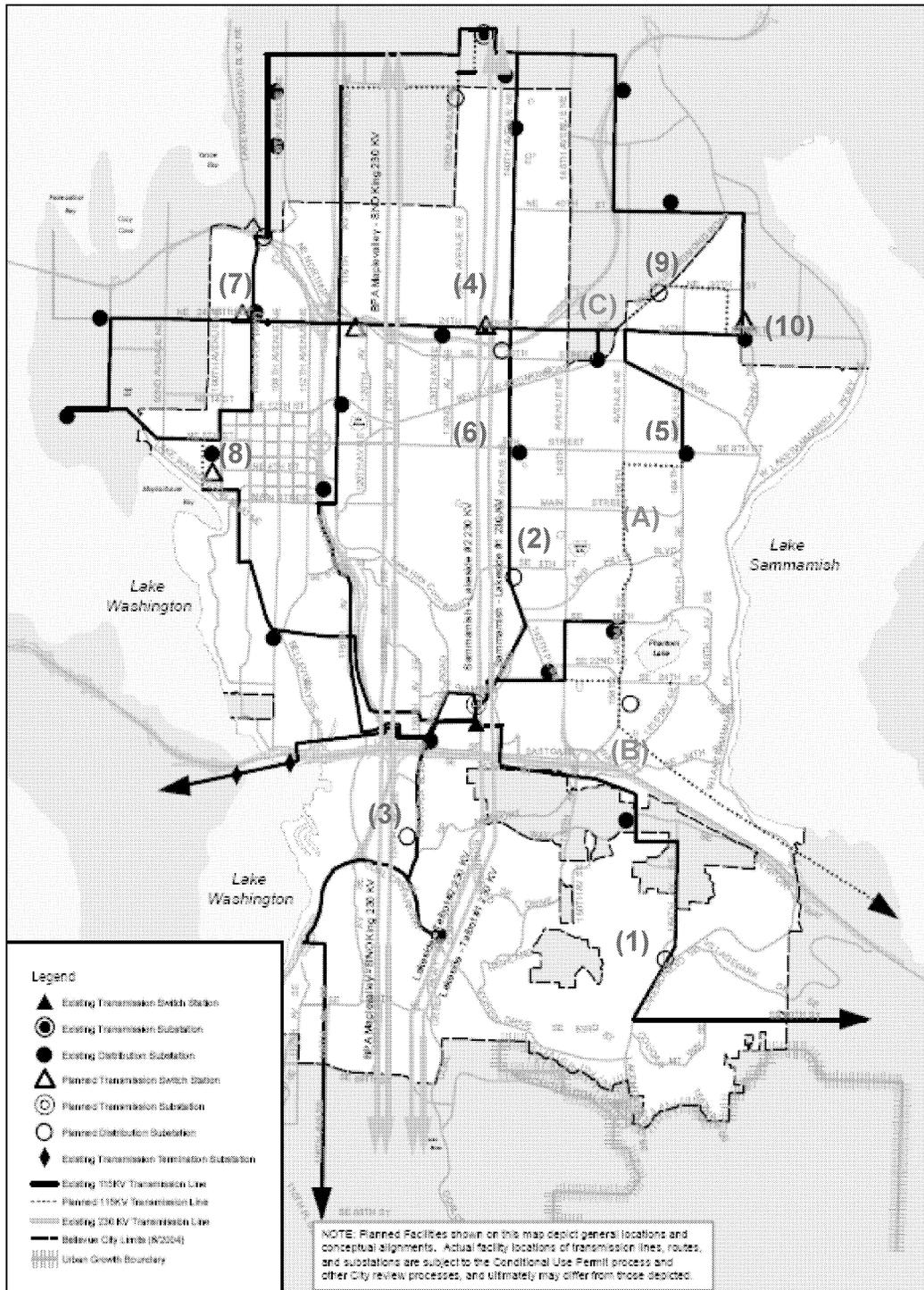
### **NEXT STEPS**

The Planning Commission continues its study sessions on this work program in anticipation of fall 2007 public hearings. The approach is for coordinated work on Comprehensive Plan policies and the Land Use Code amendments implementing those policies. It is anticipated that the Commission recommendations can be brought forward together with the package of 2007 CPAs.

### **ATTACHMENTS**

1. Screening assessment matrix
2. Potentially incompatible facilities map

# ATTACHMENT 1



**FIGURE UT.5**  
**Electric Transmission Facilities**



**ATTACHMENT 2**  
Potentially Incompatible Electrical Facility Sites Assessment Matrix

Facility Map I.D.	Address Location	Facility Expansion				Zone Location	Facility Purpose	
		no expansion/ or beyond '26	expansion within fence/corridor	expansion beyond fence/corridor	planned site		residential	grid reliability
Potentially incompatible substation facilities are (numbered)								
Potentially incompatible transmission line facilities are (lettered)								
<b>Substation Facilities</b>								
Bel-Red	n/a				o			x
<b>(1) Lakemont</b>	n/a				•	•		x
<b>(2) Larsen</b>	n/a				•	•	x	
<b>(3) Newport</b>	n/a				•	•		x
Snyder	n/a				o	o	x	
Vernell	n/a				o		x	
<b>(4) Westminster</b>	13629 NE 24 <sup>th</sup>				•	•		x
Bridle Trails	5510 140 Av NE		o			o		x
College	14470 SE 24 <sup>th</sup>	o				o		x
Eastgate	4000 156 <sup>th</sup> Av SE	o				o		x
Enatai	10805 SE Lake	o				o	x	
<b>(5) Lake Hills</b>	16315 NE 8 <sup>th</sup>		o			•		x
<b>(6) Midlakes</b>	750 140 <sup>th</sup> Av NE		o			•		x
Northrup	2260 130 <sup>th</sup> Av NE		o					x
Phantom Lake	15555 SE 16th	o				o		x
Somerset	5200 Coal Crk Pkwy		o			o		x
South Bellevue	1880 108 <sup>th</sup> Av SE	o				o		x
Center	220 116 <sup>th</sup> Av NE			o				x
<b>(7) Clyde Hill</b>	2405 Bell Wy NE			•		•		x
Factoria	12806 SE 32 <sup>nd</sup>			•		o		x
Lakeside	13615 SE 26 <sup>th</sup>			o			x	
<b>(8) Lochleven</b>	9825 NE 4 <sup>th</sup>			•		•		x
North Bellevue	11616 NE 12 <sup>th</sup>			o				x
<b>(9) Ardmore</b>	n/a				•	•		x
Evergreen	NE 24/162 NE	-						
Houghton	10610 NE 52 <sup>nd</sup>	-						
Interlaken	2120 152 <sup>nd</sup> NE		o					x
Ivy	n/a				o	•		x
<b>(10) Kenilworth</b>	17210 NE 24 <sup>th</sup>			•		o		x
Medina	2501 84 <sup>th</sup> Av NE	-				o		
Overlake	1000 84 <sup>th</sup> Av NE	-						
Rose Hill	13635 NE 80 <sup>th</sup>	-						
Sammamish	8900 144 <sup>th</sup> NE	-						
South Kirkland	920 6 <sup>th</sup> St S	-						
Spiritbrook	6540 154 <sup>th</sup> NE	-						
Yarrow	n/a				o			
<b>Transmission Line Facilities</b>								
<b>(A) Phantom Lake-Lake Hills</b>	-			•		•	x	
Phantom Lake-College-BCS	-		o			•	x	
<b>(B) Phantom Lake-Ivy</b>	-			•		•		x
<b>(C) Interlaken-Ardmore-Kenilworth</b>	-			•		•		x
Sammamish-Snyder	-			o	o		x	
Lochleven upgrade (SB)	-		o			o	x	
Samm-Lakeside-Talbot230kv	-		o			o	x	

o = compatible (with surroundings)  
• = potentially incompatible  
x = falls in category (no ranking)  
n/a = Expansion inapplicable to Bellevue