STREAMLINED PERMITTING FOR SOLAR PV

Evergreen State Solar Partnership

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BACKGROUND

Purpose of Report

Improving and modernizing government is a constant challenge. The needs of our citizens change as our economy and population change. Technology provides governments an opportunity to improve service delivery. However, thoughtfully improving government requires a concerted effort across the range of stakeholders. The Evergreen State Solar Partnership embarked on this journey earlier this year to develop a more streamlined and standardized set of proposals for rooftop solar systems.

This first report on permitting explores how current permitting can be improved by first understanding the current approaches used across four Washington cities – Edmonds, Ellensburg, Bellevue and Seattle, and considering lessons learned across the country. The result is a model approach that is intended to standardize the process, while being adaptable across Washington's diverse cities.

Those of us involved in this exciting project have learned a great deal from our dialogue, but we know the proposals can be improved with insights from throughout Washington. We welcome your comments, questions and improvements to this report and approach. We hope you will provide feedback based on your experience that will make the proposal stronger. In the coming months we will produce additional reports on utility interconnection and financing solar systems. Together we can make government work better for everyone and expand the use of solar throughout our state and build on our renewable energy heritage one system at a time.

Evergreen State Solar Partnership

The Evergreen State Solar Partnership (ESSP), led by the Washington Department of Commerce (Commerce), is one of 22 projects across the country working to bring down the soft costs associated with installing rooftop solar electricity. Working under a Department of Energy's Rooftop Solar Challenge grant program, this nationwide effort engages diverse teams of local and state governments along with utilities, installers, non-governmental organizations, and others to make solar energy more accessible and affordable. These collaborative teams are working to reduce administrative barriers to residential and small commercial PV solar installations by streamlining, standardizing, and digitizing administrative processes. The objective of the Challenge is to make the process of going solar simpler, faster, and more cost effective for residents and businesses.

Non-hardware, or soft costs, associated with processes such as permitting and interconnection make up as much as 40% of the total installed cost of a rooftop PV system and have remained relatively fixed over the years. In addition, solar installers and customers in Washington State face a patchwork of jurisdictions, each with their own codes, standards and processes, and an assortment of electric utilities – 63 different municipals, Public Utility Districts, rural electric

coops and Investor Owned Utilities. For Phase 1 of the ESSP, four cities (Seattle, Bellevue, Ellensburg and Edmonds) and the utilities that serve them were strategically chosen to represent Washington's diverse regulatory and market environment. Together, the jurisdictions represent 12% of Washington State's population while their load serving utilities serve over 60% of the Washington State population.

The objectives of the ESSP project are to:

- Lower the cost of rooftop solar electric systems by streamlining and standardizing the permitting processes and interconnection standards throughout Washington State.
- Improve market conditions by creating business certainty for solar PV deployment across multiple jurisdictions.
- Facilitate the adoption of solar financing options to make solar energy affordable for all Washington residents.

In Phase 1, the ESSP team will focus on **four action areas**: Permitting and Interconnection Process, Net Metering and Interconnection Standards, Financing, and Planning and Zoning, creating best practices and models that can be replicated across the region. This report focuses on the work that has been done to date to streamline and standardize the permitting process.

Permitting for Rooftop PV

As module prices have decreased, the "soft cost" of permitting, interconnection and the overall process for PV installations proves to be a significant percentage of the remaining cost of a system. According to one of the nation's leading residential solar power providers, Sunrun, local permitting is one the most stubborn cost that residential solar faces. To quantify the impact of permitting costs, Sunrun conducted extensive interviews with fifteen installers in their network (which represents 20% of the national residential solar market share) to gather cost data. In January 2011, their findings were published in report titled "The Impact of Local Permitting on the Cost of Solar Power." Their research found that local permitting and inspection adds and average of $0.50 per watt, or $2,516 per residential install due to wide variations in processes, excessive fees and slow, manual submittal and inspection processes. They estimate that permitting costs are equivalent to a $1 billion tax on solar over the next five years, which make it hard for installers to achieve economies of scale.

The ESSP team acknowledges that streamlining permitting and reducing costs is a worthy goal, but permitting will continue to have some cost. It is important to maintain the checks and balance that our permitting systems provide to ensure that life, safety and general welfare is retained.

In May of 2012, our team formed a working group to address this topic with the specific goal of ***decreasing the effort and cost involved in permitting rooftop solar for the four participating jurisdictions and the customers they serve***. To accomplish this goal the work group employed the following approach:

- Research national best practices and identify templates and strategies worth replicating
- Document and thoroughly understand the current permitting process in each city (from pre-application through inspection)
- Compare and contrast the permitting processes across the four cities and identify areas of improvement
- Agree upon a single, standardized permitting process for systems that meet a common design format
- Implement city-specific improvements and standardized process across jurisdictions

BEST PRACTICES

Although jurisdictions may have individual characteristics that require a specific response, much of the PV permitting process is similar enough that lessons learned can be shared and duplicated. Our team started by researching national examples of permitting processes such as the Solar American Board for Codes and Standards (Solar ABCs) and examples from the Interstate Renewable Energy Council (IREC) report on sharing stories of successful efforts to increase efficiency for rooftop solar permitting. We also reviewed current efforts already under way within our four participating jurisdictions that we could apply to our overall goals, i.e. Bellevue has been working for 10 years to implement an online permitting process via mybuildingpermit.com and within that effort figuring out what permits can be streamlined. Representatives from our team also participated in a national meeting in Denver, CO in June of 2012. At this meeting, the 22 Rooftop Solar Challenge teams received the opportunity to exchange ideas and hear lessons learned from nationwide peers.

After researching national practices we identified numerous examples worthy of exploring. We have divided the best practices into the following discussion categories to help break-down the permitting process**: a) pre-application, b) permit submittal c) permit review, d) expediting the process, e) inspections, and f) fees.**

Pre-application

Checklists can be very helpful in making the permit process easier and quicker and does not involve extensive technology or research. Some good examples are those prepared by Boulder, CO; Tucson, AZ; San Jose, CA; and Miami-Dade, FL. These checklists offer installers and potential customers curious about solar, simple, straightforward guidelines on the steps involved in the permitting process. Having a handy checklist with all of the required information helps customers and/or installers prepare the information needed in advance so as not to slow down the process, and give all involved a joint place of reference.

Some cities, such as Portland, OR, have prepared a more extensive guide to solar installations. This type of a document offers more explanatory information about the technology, installation and process. Instead of having people call the City with questions and taking staff time to

answer questions, people may be referred to this type of a guide to have many of their questions answered. This document takes more time to prepare initially, but since the technology is the same, it can be duplicated outside of Portland and the document only needs to be updated as new information develops related to the solar technology, City requirements, or other lessons learned. A guide like this may be useful for cities that deal with a large volume of solar permits.

Simply identifying a single point person for solar questions can ease the process significantly. This can be as simple as adding a phone number and email to a webpage and existing documents. This person does not need to know all answers but should be able to answer some questions and know where to send people for those inquiries which he/she cannot address. If a customer knows where to go to get a question addressed, it can save much time and effort on the customer's part and on the City's part by avoiding having to be forwarded through various people before arriving at the right place.

Website portals offer a central resource that can efficiently guide people through the permitting process beginning to end. More and more the Internet acts as the main form of communication or portal for accessing information. Many cities already have a website in place to share information about building and electrical permitting. Adding solar specific information has the potential to greatly improve the efficiency of rooftop solar permitting. From the research involved in our permitting efforts, Berkely, CA; Denver, CO; and San Jose, CA are examples of cities with good website portals.

Permit Submittal

When the installation of solar systems have its own application, the process is clearer. As the use of solar technology continues to increase, cities are increasingly faced with the challenge of how best to conduct a comprehensive review of the impacts of a solar system. Often, cities add solar systems as an option in their existing building permitting process and documents. Others have created a separate application specifically to address solar systems. When solar is added to existing building permit applications it can be difficult for the person filling out the application to know which parts need to be filled out since there are items on the application that don't apply. This adds time to complete it and time for staff to follow-up on missed or inaccurately completed items. Miami-Dade is again a good example of a solar specific permit application, as is Phoenix, AZ and Vermont.

In general, electronic submittal (whether through email or web) is the quickest and most efficient process for most cities and applicants. Another aspect to consider is how the application is submitted – e.g. in person, via email, or online entry. Each option has its pros and cons, but requiring an installer to submit an application in person and also retrieve the permit once it is approved adds tremendous time and effort to the process. However, start-up costs to implement a fully on-line system (front end and back end) can be significant depending on the technology sophistication and resources of a jurisdiction. The cost benefit will be more significant for jurisdictions that do not process many solar permits.

Permit Review

The review of the permit application can involve various aspects, including when the review is conducted (later or while the applicant waits) and how many different departments need to review the application.

Placing less complex applications in a separate queue from more complicated projects creates a faster path for permit review. Cities should consider developing a policy on how applications are queued – e.g. are all applications handled on a first-come-first-served basis; or can quick applications be processed separately or ahead of large, complicated applications. As familiarity with solar systems increase, more and more cities are moving towards processing simple PV applications over the counter and are setting up processes to expedite basic applications. Some jurisdictions have adopted a process where quick and easy applications are placed in a different queue than complicated large ones. Saving time at this step significantly decreases costs for all involved.

Projects that will need additional department review should be identified upfront. In general, the fewer the departments involved, the easier and faster the process. However, it's important to ensure that each department's interests are covered and systems meet code and safety standards. For example, the electric code review may focus on items such as electric loads, wire size, breaker management and weather-proofing whereas the building department may be more concerned with structural issues like the weight of the equipment and wind and snow loads, while the zoning department may be paying attention to visibility and historical integrity. Merging some or all of these interests in the review process can be an effective way to streamline the PV permit.

Expediting the Process

We found good examples of expediting the application and review process for rooftop PV systems that meet a common design format. Acknowledging that most rooftop PV installations share the same characteristics – e.g. panel connections, wire size, conduit needs, electrical load, breaker requirements –the City can save time by ***not requiring*** installers to submit a building permit application for full review.

- **No Building Permit Review:** San Jose, CA and Philadelphia, PA skip the building plan review for projects that fall within a common design format. These criteria include: residential project; rooftop; prescribed weight and height parameters; clearance range around the equipment; UL listing of panels and inverter; and installed per manufacturer's specifications.

- **Expedited Review:** The Solar ABCs offers a good example of how to set parameters for installations that can qualify for an expedited electrical permit process. The Solar ABCs expedited permit template also provides direction on what supporting documents are needed to qualify. Phoenix, AZ is a good example of a city that has fully embraced

expedited permitting for solar PV, significantly reducing the time and costs involved for the City and the customer.

- **Contractor Pre-Approval:** Another approach to simplifying the permitting process is to focus on pre-approving the installer, separate from focusing on the technical aspects of the installation itself. For example, an installer could be required to have current PV certification from the National Board of Certified Energy Practitioners (NABCEP). Some cities require a certain number of successful installs within the City's boundaries that did not necessitate any major corrections in order to qualify. Long Island, NY and Portland, OR have implemented this step of pre-approving contractors. If a City has worked with an installer in the recent past and had a successful experience, then they can utilize that experience to allow the installer's permit to fast-track through the process.

Inspections

Inspections are another step in the permitting process that can add delays, costs and complication of a PV permit. Some of the inspection complication, and thus room for improvement, arises from scheduling the inspection.

Inspection windows should be clear to give contractors an idea of when they need to be present to allow access to the system. Cities should develop an efficient policy on how quickly an inspector can review the system and how large of a window the inspector gives in which someone has to be present to allow access to the system. Cities can also make it easy for contractors to track the status of an inspection by providing on-line access or a single point of contact. Miami-Dade is a City that has reviewed these aspects and developed a good response.

Training of inspection staff reduces issues created when there is a lack of familiarity with PV systems. Some problems with inspections arise from training and guidelines. Some codes are vague enough that inspectors may vary in their response, leading to great difficulty for installers to know how to avoid inspection modification requests, and thus cost and delay. Some inspectors do not know enough about PV and the related equipment and thus misunderstand what needs to be done to meet code and safety requirements. The IREC report offers sample guidelines that can be useful to jurisdictions trying to improve on the inspection step of PV permitting. San Diego, CA and San Jose, CA offer good examples of how to respond to inspection training and guidelines. In October, 2012 the Interstate Renewable Energy Council launched the Photovoltaic Online Training (PVOT) as a method of instructing code officials nationwide in performing reliable field inspection practices for photovoltaic installations. The six basic learning modules encompass the major topics of concern for field inspection and expedited permitting, including: Roof Mounted Arrays and Wire Management, Electrical for Roof and Ground Mounted Arrays, Specifics of Ground Mounted Arrays, Appropriate Signage, Equipment Ratings, and Expedited Permitting.

Consolidating and coordinating inspections with jurisdictions and utility providers reduces the number of visits to each installations. As with the review of the application, some jurisdictions have multiple agencies (City, State, Utility) that wish to inspect the installation in order to

ensure their particular interests are covered and systems are safely installed. Each individual inspection adds significant cost for all involved. Municipal utilities may be able to consolidate the building, electrical and/or utility inspections since they have shared governance. Jurisdictions that do not issue their own electrical permits (eg. use State Labor and Industries) and/or are not as connected with their utility provider will have more difficulty combining inspections. However, with some thought, steps can be taken to ensure all interests are supported while limiting the number of visits to each installation. Santa Clara, CA is a good example of how a jurisdiction with a municipal utility has consolidated the review and approval processes into one transaction.

Fees

Permit fees should fully reimburse jurisdictions for the effort required to process permitting applications and review. However, historically PV permit fees have been based on the cost of the equipment which is often unrelated to how complicated the application review is. More jurisdictions are gaining enough experience to be able to calculate the effort required to process a PV permit and are charging fees accordingly. As the permitting process gets streamlined, the cost involved should decrease and be reflected in the fees that are charged. The Sierra Club developed a helpful worksheet for calculating the PV permit fee based on the effort involved by staff to process a permit.

Permit fees based on actual time spent to process an application. Within our team we reviewed our costs and found that some have already been prudent with setting their fee at a flat rate based on costs to the City. For example, Edmonds charges $135 for residential permits which equates to 2 people hours plus a minimal $15 surcharge. Others use the system costs for residential and/or commercial system as a baseline and adjust the actual fee to reflect effort costs once the permit review is complete. Changing fee structures for the permit may be harder for some of the larger jurisdictions that require a full review and approval by their City Council. Many national practices suggest a goal of a flat fee that is predictable for customers and focuses simply on reimbursing the City for the time and effort required to process the permit and complete inspections.

CURRENT PROCESSES

Northwest Sustainable Energy for Economic Development (Northwest SEED) worked closely with the four participating jurisdictions to map out in detail their current permitting process for rooftop PV systems to establish a baseline and identify areas of similarities between the cities. Each city completed a detailed questionnaire and translated that information into a flow chart to exemplify the steps required in each process. See appendix A-D for process flow charts. Together, these documents helped us compare and contrast current permitting processes within the framework of the DOE goals and clarify positive steps towards streamlining and standardizing. A matrix of these findings follows.

Solar PV Permitting Process: Comparison for Residential, <5 kW Rooftop PV

(DOE point priorities in parenthesis)	ELLENSBURG	EDMONDS	SEATTLE	BELLEVUE
APPLICATION (110)				
1. To how many departments does an installer have to submit separate applications? (a municipal utility does not count as a city dept here)	2 (Bldg, L&I Electrical)	2 (Bldg, L&I Electrical)	1 (Electrical)	1 (Electrical)
2. What types of departmental approvals are required?	Bldg, Fire, Land Use/Zoning	Bldg/Fire & Land Use/Zoning	Elec (Bldg/Fire & Land Use/Zoning if outside of parameters)	Elec (Bldg & Land Use if outside of parameters)
3. What approvals from Professional Engineers are required as part of the permit package?	None, PE stamp rqd for non-standard	None	None	None
4. What is the average time required for an installer/customer to complete a permit application?	5 min + supp docs prep	5-10 min + supp docs prep	Elec Permit is self-issued	15 min
5. What are the options for obtaining an application?	In-person, mail, web	In-person, mail, web, fax	In-person, email, mail, web, fax	In-person, email, mail, online, fax
6. What are the options for submitting an application?	In-person, mail; fax & email but need signature, $	In-person, mail	In-person, email, web, fax	In-person, mail, online
INFORMATION PROCESS (60)				
7. How is information describing the permitting process accessible?	In-person, phone, web	In-person, phone, mail, email	In-person, phone, web	In-person, phone, web
8. Is there an accessible designated point of contact, with contact information available online, for questions about the PV permitting process?	No	No	Yes (cust. Generation-Jack)	No
PERMIT PROCESS TIME (110)				
9. Is there a policy to issue/deny PV permits within a specified number of business days from submission of application?	No	No	Yes	Yes
10. Does the jurisdiction track the number of days each permit takes to process?	Yes (spreadsheet)	Yes (Bitco)	No, they are self-issued	Yes - via online report

	ELLENSBURG	EDMONDS	SEATTLE	BELLEVUE
11. What is the average number of business days between application submission and decision (issuance or denial) regarding permit?	OTC or 10-14 bus. days	2-7 bus. days	zero	Up to 21 bus. days
12. Are there mechanisms in place for accelerating PV permitting processes under certain conditions?	No-but can, have website; can expedite if same design	Yes-streamlined land use review; provisions for addtl height; can do more (e.g. web)	No	No, but will be soon via mbp.com
FEE (30)				
13. How is information on permit fees made available?	In-person, mail, web	In-person, email, web	In-person, phone, web	In-person, phone, web, email
14. What is the average total for the applicable permit fee(s) for typical installations?	$85 per $1,000 valuation	$135	$192.75	($225+) Varies based on valuation
15. Is/are the permit fee(s) structured as flat, cost recovery, valuation open ended, or valuation capped?	Valuation open ended	Flat (per cost recovery calcs)	Flat	Valuation (per schedule)
MODEL PROCESS (30)				
16. To what degree do you use the Solar ABCs expedited permitting process template for typical installations?	Do not currently use	Do not currently use	May use solar abc 1-line drawing	Do not currently use
17. What is the average number of business days from inspection request to actual inspection? In hours (5 days = 40 hrs)	City-same day (0-8 hrs) L&I-not sure	City-next bus. Day (0-8hrs) L&I-w/in 48hrs?	City-same day if request prior to 7am; otherwise next business day	City-next bus. Day (0-8hrs)
18. What is the typical window of time given to the installer for final onsite inspection? In hours (5 days = 40 hrs)	City 0-4 hrs L&I does electrical	City 0-4 hrs L&I does electrical	0-8 hours; 2 hours if requested	2 hours, or notify customer 30 minutes prior
19. How is information on inspection requirements made available?	In-person, mail, web	In-person, email, web	In-person, phone, web	In-person, phone, email, web
20. How many separate inspection trips are required?	2 (City/L&I)	2 (City, L&I)	1 (City/elec); may require pre-panel insp. in future	1 (City/elec)
COMMUNICATION PROTOCOL W/ UTILITY (40)				
21. Do the utility and local jurisdiction coordinate regarding inspection requirements and on-site inspection times for the permit inspection and interconnection inspection?	Yes (utility w/in City)	No	No	No

BARRIERS

In August 2012, the permitting workgroup convened to discuss the current processes and national best practices. Each jurisdiction is experiencing some unique and shared barriers to solar permitting. These barriers are identified below.

Unique Barriers

Of our four jurisdictions, two are large cities (Seattle, Bellevue) and two are small cities (Ellensburg, Edmonds). This size variation impacts their challenges and opportunities. Edmonds and Ellensburg may have an easier time coordinating between departments and changing policies and process due to the small size of their local government. However, they also have the challenge of fewer resources to turn to for expertise, computer upgrades or software purchases and they have limited experience with solar installations. Ellensburg does not have any of their permit information computerized beyond Excel sheets. Although Edmonds has dealt with just a handful of solar installations, they currently use an online system called PermitTrax to process building permits. This system offers a web based public view for customers to track their permit and at the same time offers the City internal tracking ease, including online direct entry for simple permits. Incorporating on-line permitting for solar will be easier to tackle with this system already in place.

In contrast, Seattle and Bellevue have larger solar markets and are more familiar with permitting and inspecting systems, however they may have a harder time implementing changes quickly due to the size of their government and the need for a formalized review. Similar to Edmonds, Bellevue has the advantage of incorporating solar into larger efforts to streamline their building permit processes. Bellevue is converting all of their permits to be fully on-line (beginning to end) through mybuildingpermit.com and has invested a considerable amount of time and resources to launch this effort. The framework that has been put in place will allow for easy inclusion of the solar permitting process.

For small residential rooftop PV systems, Seattle has the simplest permitting process in that they typically do not require a building permit and have on-line application process for electrical permits. Seattle has issued the most rooftop PV systems among the four jurisdictions which has illustrated some barriers in their current process. Performing inspections on rooftops is atypical for electrical inspections which presents practical difficulties in accessing the roof and inspecting the necessary electrical components. The pre-application process for screening for building, fire and zoning code compliance needs to be improved.

Shared Barriers

While all four of the jurisdictions are interested in supporting safe and efficient PV installations they are working in a resource and economically constrained environment. For example funding for life safety, police and fire often takes priority over process improvement. In addition, shepherding change and achieving buy-in within a government system that is

composed of layers of approvals can take a significant time investment. Focusing on the "low-hanging" fruit will yield the most immediate success for streamlining the permitting process.

For some cities, solar PV is a new technology that staff has not had a lot of exposure to or training on. Solar is often perceived as a niche technology that is incompatible with a traditional residence and energy uses. Many times this perception translates into creating processes that provide extra layers of protection that aren't necessary for the modern solar PV system. In the same respect, every permit process involves collecting a variety of information so that the appropriate department officials and inspectors can assess the impacts and ensure that the systems are installed safely--including structural and electrical. It is not appropriate to have the structural experts approving the electrical safety of a PV system, nor the reverse. Therefore, any PV system involves an array of people, departments, and potential needs for information, documentation and inspections. This complicates efforts to simplify the permitting process no matter what type of jurisdiction is involved or how supportive of solar a City is.

Fire safety and access is another example of a challenge that the jurisdictions share. This topic in particular has been important as fire fighter safety and effectiveness is critical, but often the requirements to support firefighter safety have significantly limited solar PV system design and implementation. The 2012 International Fire Code contains some provisions that limit PV system design and has caused some concern for installers. Fire departments are concerned that there is enough room at the ridge, valleys and eaves for firefighters to ventilate a roof in case of a structure fire. They are also concerned that a safety disconnect switch and signage is provided so that they can quickly locate it in an emergency. Some cities in Washington State do not allow their firefighters to be on the roof and others do, some follow standard national fire codes and others don't, which leads to variability with which installers have to deal. The WA State Fire Code Technical Advisory Group (TAG) recently reached a consensus that the entire code section (605.11 and 105.7.13) in the 2012 International Fire Code that addresses solar PV, permitting, labeling, and setbacks should be tabled and referred to a special TAG to address the issue specifically. Additional information on this process can be found here.

PROPOSED SOLUTIONS

Each city has identified specific steps that they can take to help streamline the permitting process, as well as standardize the process across the four cities. These changes are broken into categories based on how quickly they could be implemented—short, medium and long term. Given the one-year timeframe for phase 1 of the ESSP project, we focused on significant improvements that each City can make that would greatly enhance the permitting process for customers and the City while not taking extensive effort to implement. Much of the improvement can come from relatively easy steps such as improving the quality and quantity of solar specific information and increasing the access to information. This information could be simply a person identified as a contact for solar-related questions; a tip sheet; a check list; and

information available via websites and email. Bellevue will finish implementing their use of mybuildingpermit.com (mbp.com); Edmonds will see what solar permitting they can add to their existing Bitco PermitTrax online system; the other two will explore the use of mbp.com, Bitco or other online systems.

Some tasks towards improvement relate to all of the jurisdictions. Most notably, we agreed to draft a template for a "simple" installation that could be expedited through the permitting process in all jurisdictions. The working draft of this template proposal is included in Appendix F. In addition to the expedited process, the team will start tracking the time required to issue a finalized permit, will establish a policy on the process time, will support email / web based permit processing as much as possible, and will incorporate as much of the solar ABCs as possible. An action plan that details specific steps that will be taken by the team follows.

ESSP Permitting | Action Plan – 9.10.12

	Dec 2012	May 2013	Dec 2013
Bellevue	♦ Create solar specific web page, includes solar contact person, overview of solar permitting process, checklists ♦ Create options to expedite process if a simple system proposed ♦ Explore coordinated inspection process with PSE ♦ Establish and implement a residential solar specific policy for permit fees	♦ Fully implement mbp.com – includes streamlined path for solar permitting	
Edmonds	♦ Create solar section for web page, includes solar contact person, overview of solar permitting process, checklists ♦ Create solar path within Bitco/online submittal ♦ Develop policy for a flat fee for residential solar permit ♦ Develop simplified valuation policy for commercial solar permit fee	♦ Coordinate with Snohomish PUD & L&I for inspections ♦ Adopt finalized fee policies by resolution ♦ Online plan review for solar	
Ellensburg	♦ Create solar specific web page, includes solar contact person, overview of solar permitting process, checklists ♦ Codify flat fee for residential solar permits ♦ Make commercial fee flat, or at least lower & not value based	♦ Coordinate w/ L&I & utility for inspections ♦ Consider Bitco, mbp.com or other online product	
Seattle	♦ Update solar specific web page, includes solar contact person, overview of solar permitting process, checklists ♦ Explore streamlining electrical permit and interconnection application process. Explore consolidation of applications. ♦ Explore options to address concern about fire and shock hazards without adding ground inspection prior to panel installation. (Seattle does not currently require a ground inspection) ♦ Review and update parameters for bldg permit requirement—e.g. 1,000 lbs, land use and zoning regulations ♦ Explore coordinating electrical and utility inspection process	♦ Implement ideas for streamlining applications ♦ Implement option for addressing fire/shock hazard	
ALL	♦ Agree upon templates and process for expediting the permitting for small, standard systems (see Appendix F of this report) ♦ Track permit time from submit to finalize ♦ Establish policy on process time from submit to finalize ♦ Know of & use Solar ABCs as much as possible	♦ Implement a single template and process for expediting the permitting process for small, standard systems	♦ Modify permitting requirements as needed for new fire code

OPPORTUNITIES FOR FEEDBACK

Survey

The ESSP team is interested in hearing from other jurisdictions, installers and customers on how Washington's 285 cities, 39 counties and 63 utilities can work collaboratively to lower the soft costs of solar PV. Please give us your feedback by taking a few minutes to complete a survey. (https://www.surveymonkey.com/s/esspermit)

In addition, you can send comments at any time directly to: rooftop@commerce.wa.gov

Project Contacts

Follow our project activities at: http://www.nwseed.org/ESSP.asp

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RESOURCES

Sharing Success: Emerging Approaches to Efficient Rooftop Solar Permitting

The Interstate Renewable Energy Council, Inc. (IREC) recently released *Sharing Success: Emerging Approaches to Efficient Rooftop Solar Permitting,* a new report that outlines innovative strategies being implemented across the U.S. to help increase the efficiency of permitting procedures for rooftop solar systems. The report aims to serve as both a vehicle for discussion of permitting challenges, and as a source of inspiration for communities looking for realistic and effective ways to improve solar permitting while ensuring safe solar installations.

Solar ABC's Expedited Permit Process for PV

This report presents an *Expedited Permit Process for PV Systems*. The permit process in this report was created to meet the needs of the growing, small-scale photovoltaic (PV) market in the U.S. and is applicable nationwide. It takes advantage of the many common characteristics inherent in most of the small-scale PV systems installed today to streamline both the application and award of permits.

Photovoltaic Online Training (PVOT)

The Photovoltaic Online Training (PVOT) program is a learning tool that uses video and photographs to illustrate correct techniques for safe solar installations that comply with all

relevant building and electrical codes. It includes seven online modules, providing lessons in subjects such as roof and ground-mounted PV arrays, electrical requirements, equipment ratings, and expedited permitting. The PVOT program tracks each participant's progress and test scores, and meets professional licensing requirements for ongoing education in most cities and states. The curriculum complies with current National Electrical Code requirements and industry standards, which are referenced throughout the modules. Access the training here.

Vote Solar: PV Project Permit

Vote Solar, a non-profit organization working to fight climate change and foster economic opportunity by bringing solar energy into the mainstream, recently launched "Project Permit" to tackle the barriers to streamlining permitting processes and costs. As part of this project, they have created a Permitting Toolkit and Permitting Best Practices. Vote Solar is also working with Clean Power Finance to develop a National Solar Permitting Database to aggregate permitting data and standards from jurisdictions around the United States into one single online location. The database will be available to the entire industry for free. Read more about it here.

LBNL Study Compares U.S. and German Soft Costs

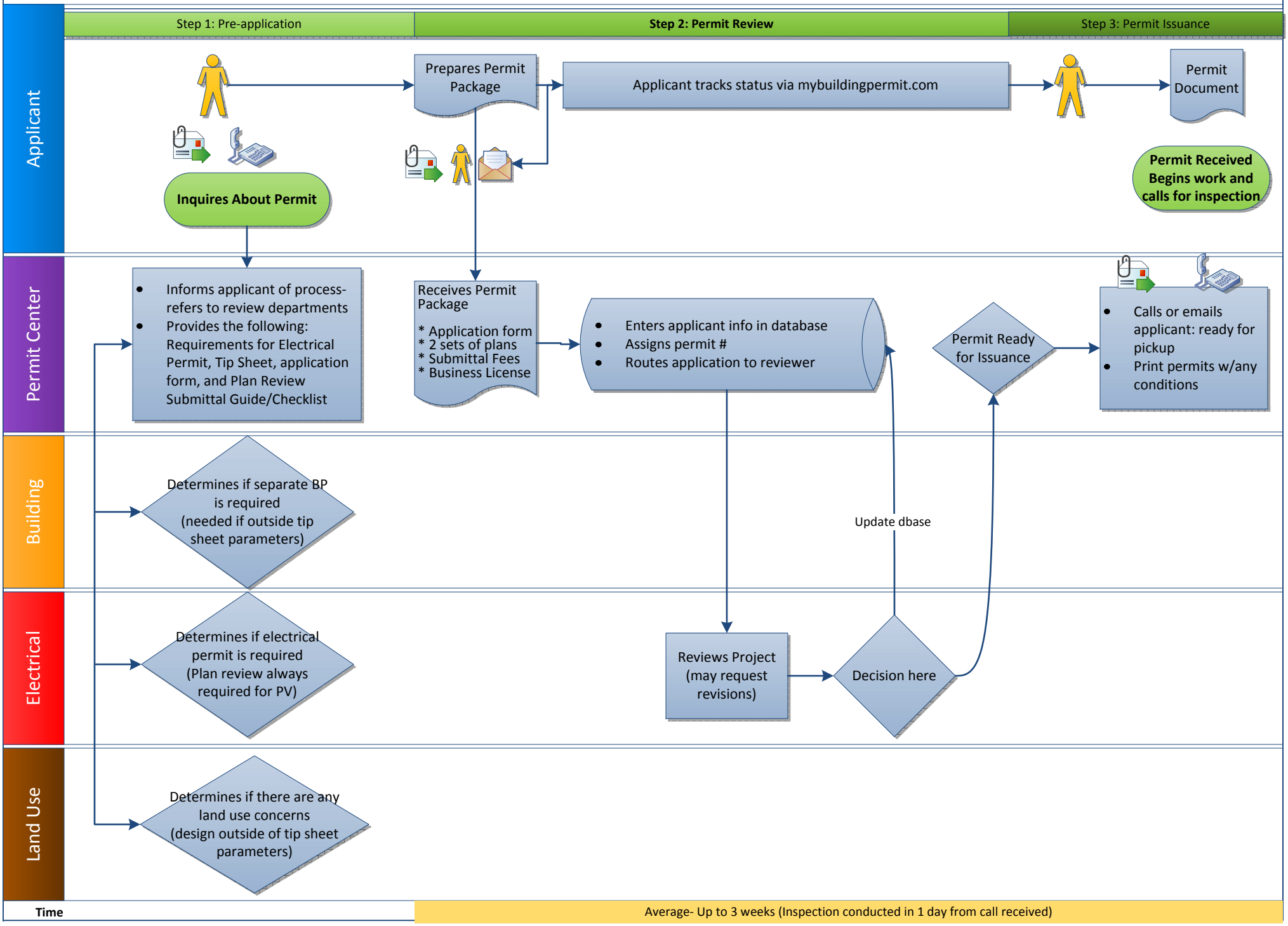
The Lawrence Berkley National Laboratory recently published a scoping document titled "Why Are Residential PV Prices in Germany So Much Lower Than in the United States?" Their findings focus on understanding the role "soft costs" play in reducing the overall costs and stimulating the marketplace. Access their findings here.

Sunrun Report on the Impact of Local Permitting on the Cost of Solar Power

Local permitting and inspection adds on average $0.50 per watt, or $2,516 per residential install, to the cost of solar, as described in detail in this report. Standardizing local permitting will transform residential solar by bringing the cost of solar to grid parity for 50% of Americans by 2013, closing Germany's 40% cost advantage and delivering the equivalent of a new $1 billion solar subsidy over five years. Download the full report here.

APPENDIX A: CITY OF BELLEVUE PERMITTING FLOW CHART

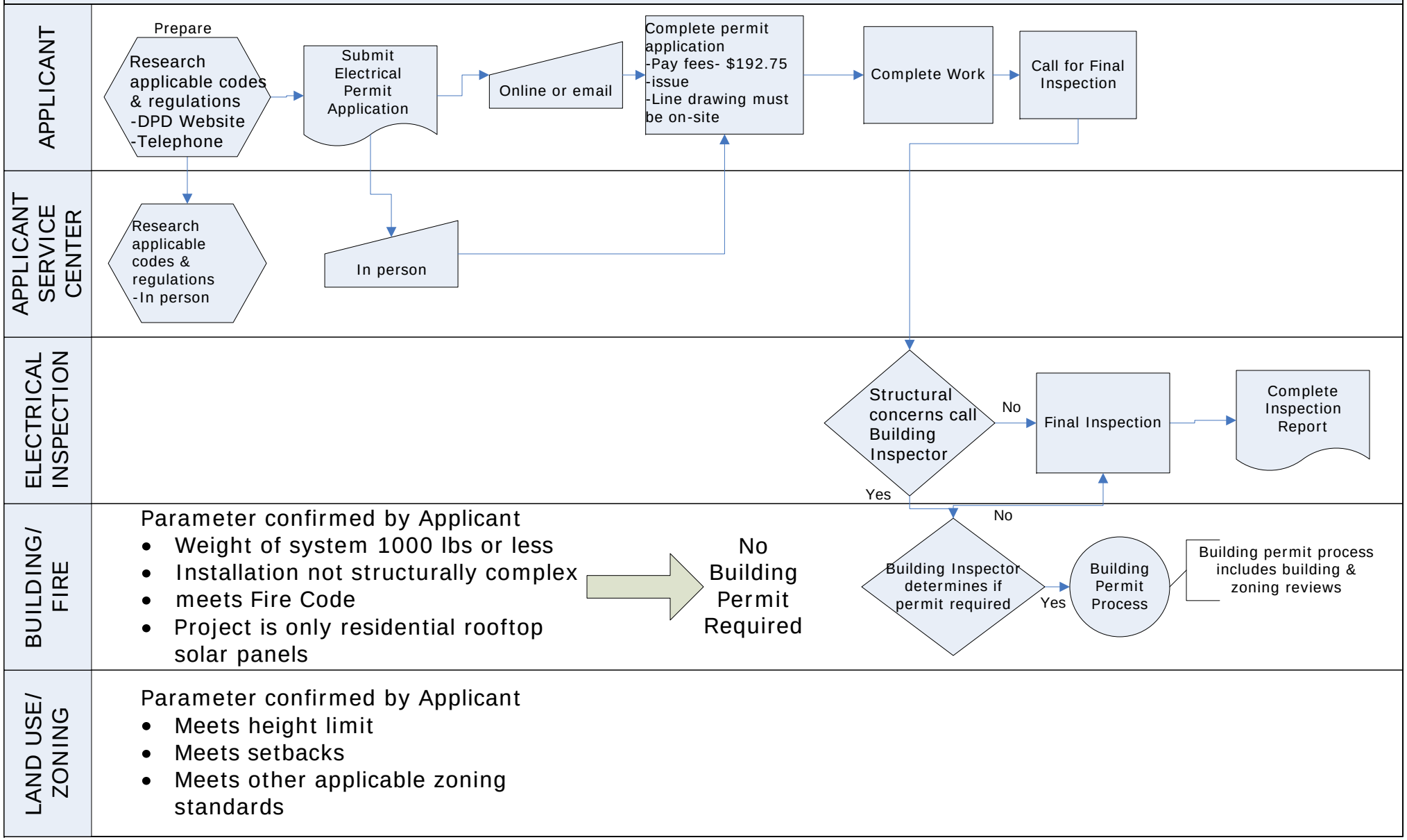
Solar PV Permitting Process – City of Bellevue [DRAFT – 06/27/12]



APPENDIX B: CITY OF SEATTLE PERMITTING FLOW CHART

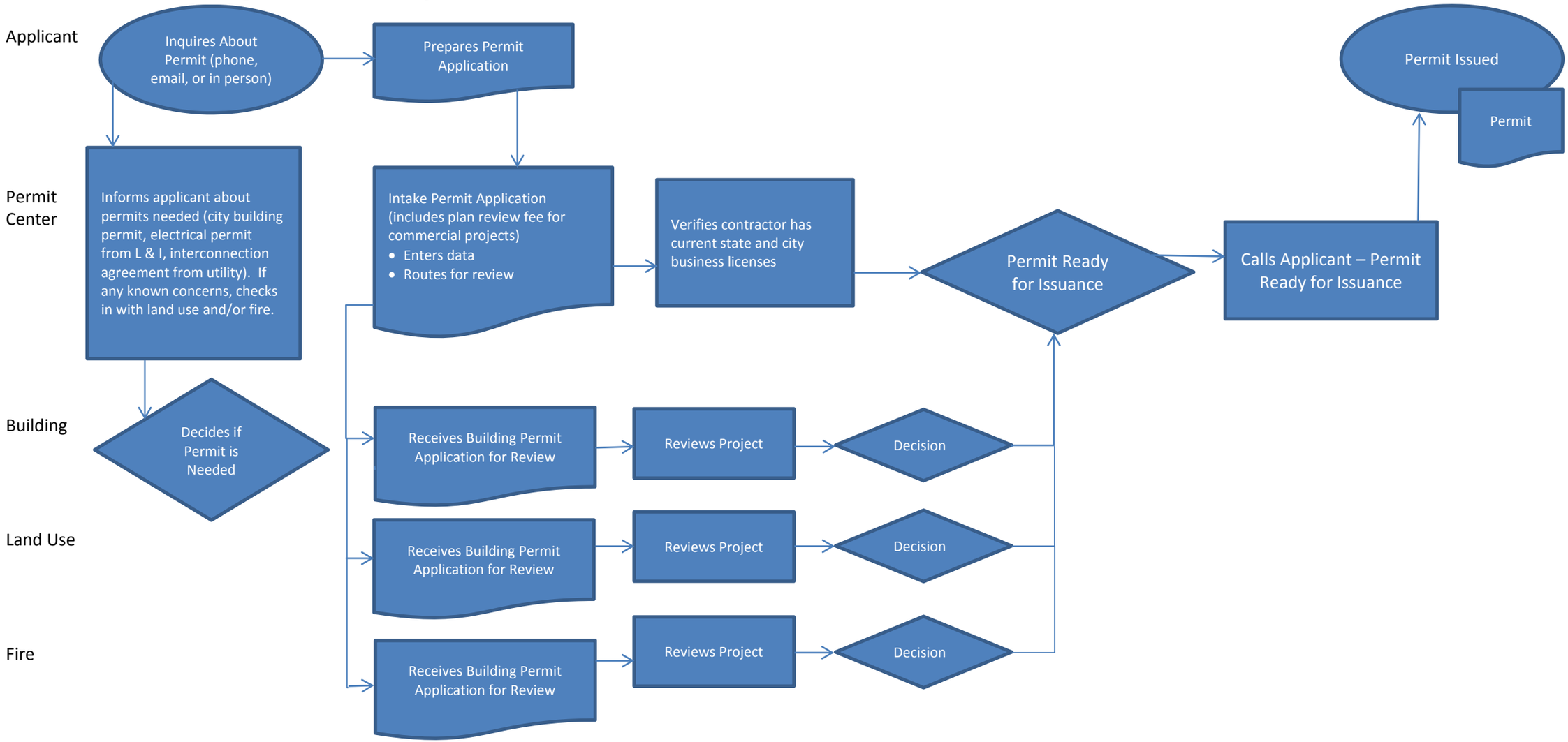
CITY OF SEATTLE PERMIT PROCESS- Single Family Residential Rooftop Solar 4 KW System

October 4, 2012



APPENDIX C: CITY OF EDMONDS PERMITTING FLOW CHART

Solar PV Permitting Process – City of Edmonds



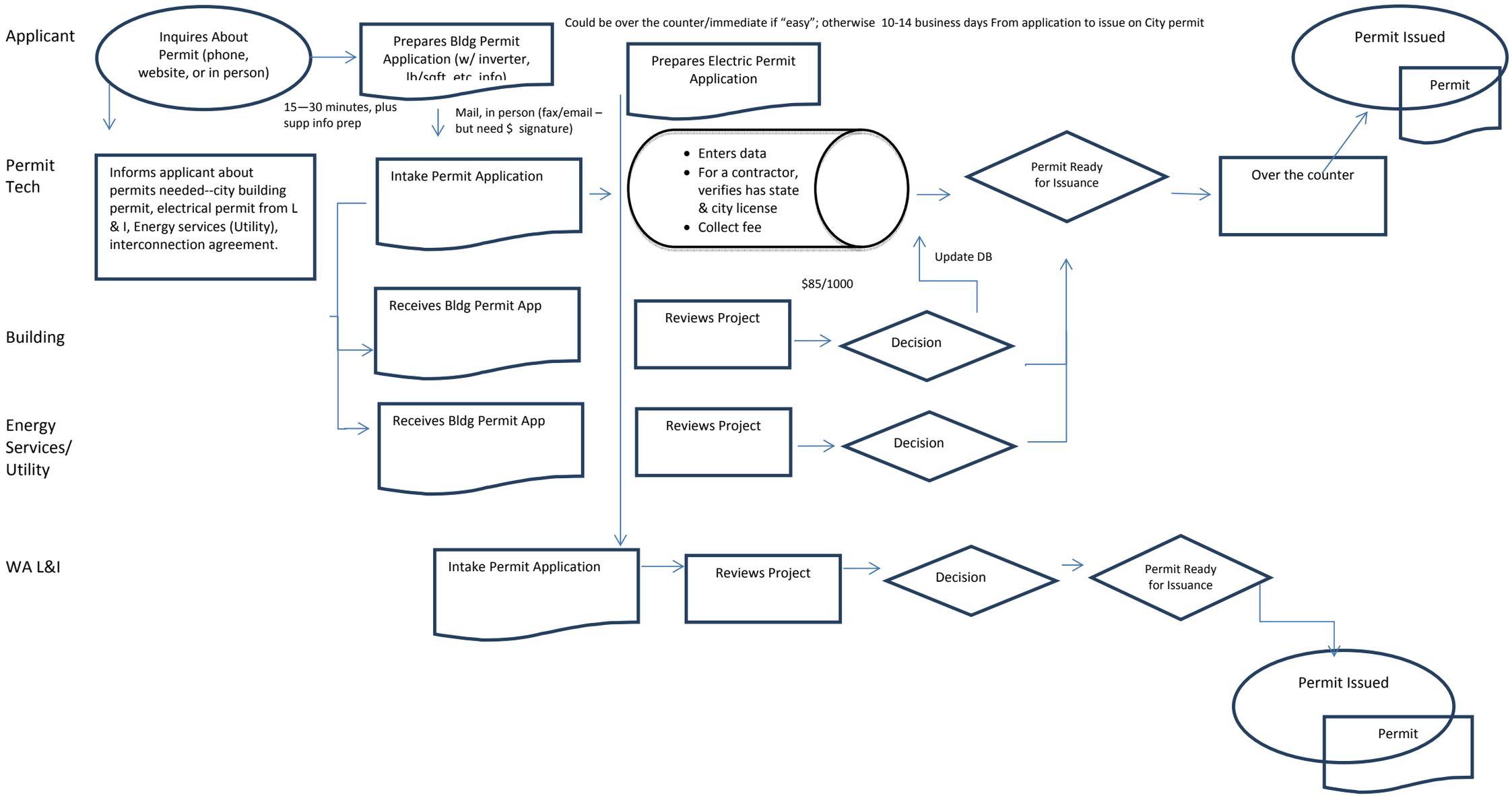
Electrical permit is separate and obtained through the Washington State Department of Labor and Industries. Contractor is required to have a city business license to work in city limits. Fees range from $50 - $125. Annual renewal fee is $50. City Business Licenses are typically issued within 15 days. http://www.edmondswa.gov/services/business/business-licenses.html

Solar PV Permitting Process – City of Edmonds

Separate Electrical Permit

APPENDIX D: CITY OF ELLENSBURG PERMITTING FLOW CHART

Solar PV Permitting Process – City of Ellensburg



APPENDIX E: AUGUST 7TH MEETING NOTES

EVERGREEN SOLAR PARTNERSHIP PROJECT
PERMITTING WORK GROUP
-August 7th, 2012 MEETING NOTES-

ESSP Permitting Goal: Decrease the effort and cost involved in permitting rooftop solar for the 4 PJ's and the customers they serve.

Meeting Objective: Gain an understanding of current processes and prioritize recommended changes.

In attendance: Heidi Bedwell (Bellevue), Bob Lloyd (Bellevue), Tim Stearns (Commerce), Joyce Phillips-via Phone (Commerce), Jess Harris (Seattle), Jack Brautigam (Seattle), Howard Lamb (Solar WA/Sunergy), Robert Doobosky (Ellensburg), Leif Bjorback (Edmonds), Jennifer Grove (NW SEED), Denise Novotny (NW SEED), Linda Irvine (NW SEED)

DOE Benchmarks, Permitting Best Practices

- Through a PowerPoint presentation lead by NW SEED, we reviewed the DOE program points and goal; reviewed highlights from the Solar ABC and IREC reports on applicable sample program pieces; demonstrated that there are various ways to address the issues, some easier to apply than others, some applicable to one PJ or another depending on their individual characteristics. Power point can be viewed on basecamp.
- The sample permit cost breakdown is a good reference to the significant role permitting plays in a system cost, but will vary by system and jurisdiction.
- We want to be careful not to get too focused on the points; reference as the framework we are working within & when we need to prioritize efforts, we can focus on the ones that earn more points.
- Can expedite if it is a simple common design—meets many/most of all applications; also can pre-approve plans that have the same look/feel so can speed through.
- Most permits are submitted in-person with the review later; hope to move to over-the-counter (OTC), electronic (i.e., email) and web-based (e.g., fillable PDF, direct website entry).
- Bitco's PermitTrax may be an online application option for other jurisdictions to consider; Edmonds uses for simple permits; are check points where an applicant can't go if not have the right information so protects from getting through without meeting appropriate guidelines/parameters.
- Online can be expensive, lots of work; e.g. Bellevue has been working on MyBuildingPermit.com for 10 years. Even just being able to email an application can be helpful to save time.
- Coordinating inspections with the interconnection can be especially helpful for cost, streamlining, and grant goals.
- Inspector Training and guidelines-is part of the Sun Schott initiative; is coming. (PVOT)
- Not going in to fees too much right now; lower points potential, possibly more complicated to change than others so may require a longer-term effort than other changes, but is good to talk about. So many ways to do it. See the fee calculator as a helpful guide.

Compare & Contrast 4 PJ's Processes

Quick overview of the documentation of each PJ's current process—see flow charts, comparison chart. In the interest of moving forward, each PJ is to review the notes on their current process and edit as needed.

Group Break-Out Session: Strengths/Weaknesses/Opportunities

SEATTLE

- 4 KW is working well; electrical permit, self-issue; do online; pay; get permit. At inspection have one line drawing; all other parameters are on the customer to say if it is needed—fire, land use. This is easy for the customer but also is a weakness; as it is, if the electrical inspector sees a problem he can call the building inspector; bring in if needed. Problem is then a change is after the install. Maybe modify online options to require more information up front.
- Easement rule – is not in code; want that and is coming.
- No checklists, but have the CAMs as guidance. Available on website now.
- Have 1 electrical inspection; having trouble seeing the wiring under the panel can be a challenge, have talked about adding a pre-panel inspection.
- Can look at having electric permit trigger interconnection approval; still have separate meter application; SCL needs to have generator information to map our system with all the generator information, but if the City deals with the specs and says they are good then can approve
- Will review combining paperwork that is repeated within permitting, interconnection, DOR—e.g. one-line diagram; see if can agree to interconnection application within the initial paperwork by signing that agree to the agreement and referencing where to see the details of the agreement; moving towards web based application
- Over 1,000 lbs needs a building permit; that number comes from old days (smaller systems; few); can revisit.
- Moving towards web based application checklist.

BELLEVUE

- Electric permit (with plan review) is always required. A separate building permit may also be required if proposal is not within the parameters of tip sheet. Tips sheet height requirement is lower than 18 inches above roof; weight is a factor; the requirements are embedded in the electric review.
- Challenge=when an application goes in to the queue; it only takes a short time for the review, but if you're behind others you have to wait.
- Looking in to expediting if it's "green."
- Have some PV specific info available to public, could have more.
- Room to look at fees; do valuation "formally", the customer puts in a value, but that value is not used as it is really high; Bellevue instead, has setup an internal standard flat fee that is based on the time required to review/issue permit (based on 2 yrs of historical info). Current fee is $225. To change the "default" to be flat-fee (and to publicize it) they would have to go to City Council for approval.
- Interested in expediting standard/small systems to skip plan review; need to continue to mitigate the problems before inspection.

EDMONDS

- Fees-established by the building official, not codified, but in practice, based on time; Residential - is 2 man hours + $15 surcharge=$135 flat fee; Commercial - valuation, recently adjusted to deduct some of the equipment.
- Weakness=not much experience, no hand-outs/checklists, e.g. only seen a handful of installs
- Willing to investigate a dedicated web page for solar on the city's website.
- Strength=wide open to suggestion; council is pro-sustainable environment, will support what want to do; currently discussing waiving fee completely; already have an online system for direct entry of simple permits, tracking, customer access to status – is internal and external tracking system (Bitco)

ELLENSBURG

- Weakness=little to no experience with permitting. have 4 installations, none permitted
- If someone came in today they would be charged valuation; thinking of having a renewable application & permitting process.
- Weight parameters is 3 lbs/sqft and on a rail system to be within a potentially expedited framework. Ellensburg snow issues is better if panel goes to the end of the bottom of the roof so snow doesn't build up; potential concern of snow at top of panels then getting under the panels and damaging them with expansion.
- Opportunity= city is small; can be nimble and implement changes quickly
- Challenge=don't have anything computerized; track permits in an excel sheet or in paper; now doing some fillable PDF forms
- Will look in to online information, collaboration between the interconnection (Energy Services) and building inspections.

CONSENSUS AREAS

- Fire easement is a potential problem for all; fire fighters want access to a particular room, not just anywhere on the roof; however, some jurisdictions don't allow the fire fighters on the roof. ESSP team is tracking fire code issues (Jeremy, Howard, Tim).
- Team is interested in creating a template process for expedited systems – small systems (need to define "small)
    - per mbp construction PV tipsheet and/or SolarABC's templates
    - includes application, checklist, sample diagrams (site plan/1-line drawing) and overview of expedited process for submittal and inspection
    - When we touch on L&I electrical permits/inspections-talk to Bob. Used to work for L&I.
- Create dedicated webpages in each city that has tip sheets, check lists, a contact person, and other solar-related information easily accessible.
- Move towards on-line application process: email or web-based
- Move towards one common website to direct folks (eg. a "Solar Portal"). Who should host this for the state? WSU?
- Move towards time-based fees for permit rather than valuation.

NEXT STEPS

- ☐ NW SEED will circulate the meeting notes & action steps by 8/20/12.
- ☐ PJ's edit their flow charts and the comparison matrix chart; return to Denise (essp@nwseed.org) by 8/20. Denise will compile the updates and upload the final document to Basecamp.
- ☐ NWSEED hands-off draft ACTION PLAN by 8/20. Each PJ reviews their proposed tasks and finalizes by 8/31.

- ☐ NWSEED uploads template PROPOSAL for expediting permitting for small systems to be adopted by the group (4 pjs'). Template will be uploaded by 8/22.
- ☐ Seattle & Bellevue take the lead on designing proposal. Send proposal to team by 9/11.
- ☐ NWSEED compiles all work to date and drafts a comprehensive ESSP Permitting Report by 9/11.
- ☐ PJ's review and edit report and proposal by 9/18.
- ☐ NWSEED Finalize permitting report and proposal by 9/21.
- ☐ ESSP Permitting Report may evolve to include the work that the interconnection group is doing (eg. one report with two sections). Purpose of report is to share what we are doing with external stakeholders and serve as a basis for webinars.
- ☐ PJs start implementation! (may need our next meeting here to discuss implementation & what support is needed?)

APPENDIX F: EXPEDITED PERMIT PROPOSAL

The ESSP is working on a template process for residential PV systems that would allow for expediting of the permit process--primarily by requiring a streamlined electrical permit but not a building permit. The team is working on various tools to help define the criteria and the process such as; checklists, tip sheets, template electrical plans, and flow charts. More details on this proposal will be shared by October 31st, 2012.