Southern Alberta Energy from Waste Association Project Development Plan: Regulatory Requirements Plan

May 2014

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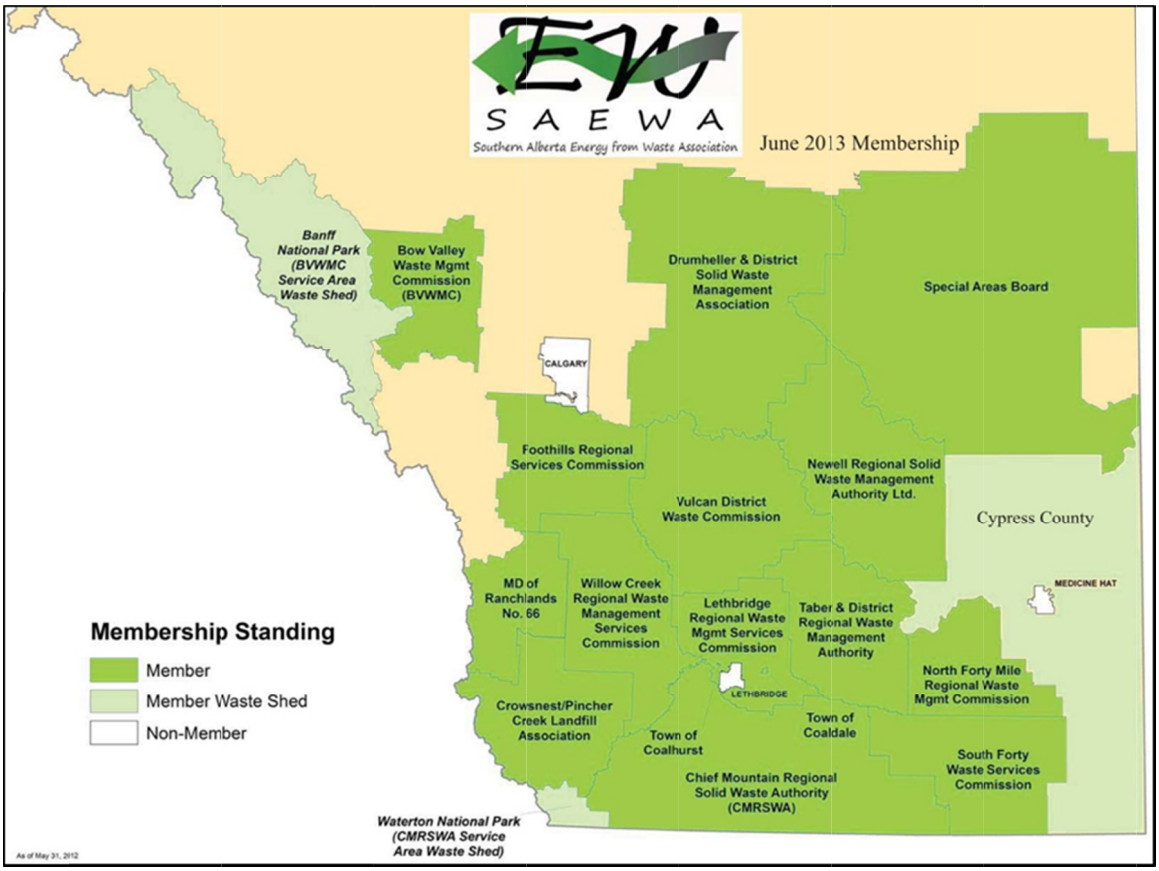
1.0 INTRODUCTION

The Southern Alberta Energy from Waste Association (SAEWA) is a coalition of waste management jurisdictions with an interest in implementing technologies to recover energy from residual waste and reduce long-term reliance on landfill disposal.

With membership totalling 62 municipalities, encompassing 12 waste authorities and waste commissions, SAEWA represents a large portion of the population of Southern Alberta outside of the greater Calgary area.

Figure 1: SAEWA Membership Map



In 2011/2012 SAEWA completed a research study confirming the feasibility of establishing an energy from waste facility for southern Alberta. The research study reports are available on-line at www.saewa.ca.

Subsequent to completion of the research study, SAEWA completed a Request for Expressions of Interest (REOI) process targeting:

- Potential host communities for an energy from waste facility;
- Potential energy from waste project developers/technology vendors; and,
- Potential energy hosts/customers.

Responses to the REOI demonstrated that there is a strong base of positive interest and support for a southern Alberta energy from waste facility among numerous potential host communities and technology vendors. The REOI also provided valuable information to help shape SAEWA's plans moving forward.

Proceeding with the next-step in decision-making, SAEWA is preparing a plan to map-out the steps, information needs, resources, schedule and budgets that would be required to move forward with development of an energy from waste facility for southern Alberta. The project development plan is made up of the following four sub-plans:

- Regulatory Requirements Plan
- Siting Process Plan;
- Communications Plan; and,
- Procurement Process Plan.

This report presents the Regulatory Requirements Plan component of SAEWA's project development plan. The purpose of this report is to identify the regulatory requirements that can be anticipated for development of an energy from waste facility in southern Alberta and describe a recommended approach to meet the regulatory requirements for development of an energy from waste facility for SAEWA's consideration.

2.0 OVERVIEW OF REGULATIONS

Waste management has become a highly regulated activity in North America and throughout much of the world. Learning from past experiences, society has come to recognize the importance of careful management of its wastes. Regulations have been legislated to ensure careful planning and to minimize the potential for adverse impacts. In the context of an energy from waste facility, the primary areas of focus from a regulatory perspective include:

- Public health and safety;
- Environment:
    - Air;

  - Water;
  - Soil;
  - Groundwater;
- Ecology;
- Land-use and development; and,
- Energy:
  - Electricity; and/or
  - Gas.

The regulatory instruments used to safeguard and manage these focus areas are applied at federal, provincial and municipal levels of jurisdiction. It is important to be aware that regulations also change dynamically to keep pace with the evolving needs of our society and the pace of technology advancements. Control of emissions to protect the environment and human health are key issues that need to be addressed in the development of any energy from waste facility. The past decade has witnessed development and application of increasingly stringent air emissions standards for energy from waste and waste conversion technologies. It is expected that this pattern of increasing regulatory protection will continue into the future.

Obtaining regulatory permission from governments through approvals and authorizations incorporates both:

a) the need to develop and document the technical information necessary to demonstrate compliance with the applicable regulations; and,
b) the need to solicit and respond to concerns and issues of stakeholders.

In the context of an energy from waste facility, developing the technical information required can be a substantial undertaking achieved through application of the sound principles of science and engineering. Understanding the diverse needs of the various stakeholders with an interest in the project can be both challenging and rewarding, but it is always beneficial to the overall development of the project in the long-run. The need for stakeholder consultation is typically embedded in the regulatory approvals processes. Consultations are typically run in parallel with - and are informed by - the more technical aspects of developing the information needed to demonstrate regulatory compliance.

This report focuses primarily on the process and technical aspects of regulatory approvals requirements. Stakeholder consultations are addressed in detail the Communications Plan.

The following subsections identify the major regulations that would be applicable to develop an energy from waste facility in Southern Alberta, presented by governmental jurisdiction level. Provincial regulatory requirements are presented first in the subsequent sections as

these have the primary influence to shape and direct approval of the project. Municipal level approvals are primarily focused on land-use and local infrastructure matters. Federal approvals may, or may not, be triggered for application at an energy from waste facility. This will be dependent on a number of site and facility specific-factors that are not yet known and will only be known in the future as project development process proceeds and key decisions are made.

Additional regulatory requirements may arise beyond those envisioned in this document, as more information about the project is developed. It is recommended SAEWA work closely with regulatory authorities during project development to regularly reaffirm the applicable approvals expectations and to obtain guidance on changes or refinements that may be necessary.

2.1 PRELIMINARY COMMUNICATIONS WITH REGULATORY AGENCIES

As an initial task in preparing SAEWA's Project Development Plan, introductory communications were conducted with representatives of the regulatory agencies anticipated to be involved in development of an energy from waste facility in southern Alberta. The agencies contacted included:

- Alberta Environment and Resource Development:
  - Industrial approvals group
  - Environmental assessments group
- Alberta Utilities Commission
- Alberta Electric System Operator
- Alberta Energy Regulator

In each of these communications, the history, current status and going-forward vision for SAEWA's project was introduced and guidance was sought regarding the expectations of the agencies and the regulatory processes and requirements that would have to be met. The results of these communications have been incorporated into subsequent sections of this report.

It is important to recognize the role of regulatory agencies as interested stakeholders in the development of an energy from waste project. It is beneficial to engage and maintain open communications and good working relationships with representatives of the key regulatory agencies throughout the life cycle of the project.

2.2 PROVINCIAL

2.2.1 Alberta Environmental Protection and Enhancement Act

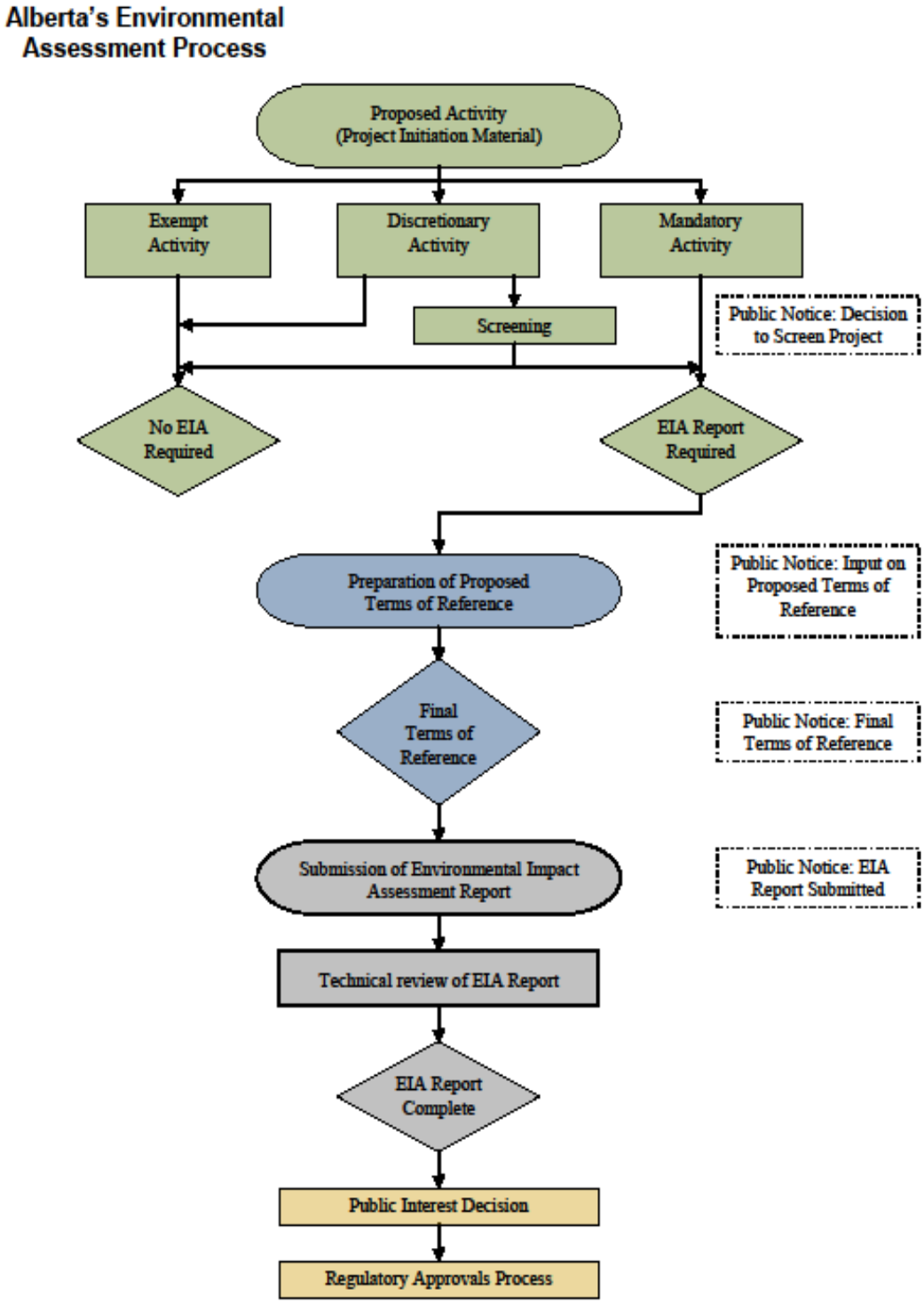
The Alberta Environmental Protection and Enhancement Act (EPEA) supports and promotes the protection, enhancement, and wise use of the environment. It is under the EPEA that the Province has authority to require the provincial Environmental Assessment (EA) process to be completed for a proposed activity through the Environmental Assessment Regulation (Alberta Regulation 112/1993).

From initial consultations with Alberta Environment and Sustainable Resources Development (AESRD), it has been determined that an Environmental Impact Assessment (EIA) report would be expected to be required for SAEWA's proposed project, unless otherwise determined through a screening process. Figure 2 presents a flowchart from AESRD illustrating the overall EA process and the role that an EIA would play in that process.

An EIA report examines a project to determine what the environmental, social, and economic and health impacts may be. First, the Proponent of a proposed activity requiring an EIA report prepares a Proposed Terms of Reference (TOR), and, if required, a First Nations Consultation Plan. The need for a First Nations Consultation Plan is determined by the AESRD in consultation with the Proponent and is based on an understanding of the proposed site location and the potential for impacts on Rights and Traditional Uses of First Nations.

The proposed TOR outlines the EIA report content requirements. The Proponent must provide notice of the proposed TOR and make them available for input from the public and from other government agencies. AESRD's EA Director considers input received from the public and other government agencies and issues the final TOR that sets the scope for the EIA report. The Proponent is then responsible to complete the EIA report.

Figure 2: Alberta EA Process Flowchart (Source: AESRD)



As a minimum, the EIA report must contain information as outlined in the EPEA including:

- Description of the proposed activity and an analysis of the need for the activity;
- Analysis of the site selection procedure for the proposed activity, including a statement of the reasons why the proposed site was chosen and a consideration of alternative sites (explained further in the Siting Plan);
- Identification of existing baseline environmental conditions and areas of major concerns that should be considered;
- Description of potential positive and negative environmental, social, economic and cultural impacts of the proposed activity, including cumulative, regional, temporal, and spatial considerations and an analysis of the significance of potential impacts;
- Plans that have been or will be developed to mitigate the potential negative impacts identified;
- Identification of issues related to human health that should be considered;
- Consideration of the alternative to the proposed activity, including the alternative of not proceeding with the proposed activity;
- Plans that have been or will be developed to monitor the environmental impacts that are predicted to occur and plans that have been or will be developed to monitor the proposed mitigation measures;
- Contingency plans that have been or will be developed in order to respond to unpredicted negative impacts;
- Plans that have been or will be developed for waste minimization and recycling;
- The manner in which the Proponent intends to implement a program of public consultation in respect of the undertaking of the proposed activity and to present the results of that program (explained further in the Communications Plan);
- Plans that have been or will be developed to minimize the production or release into the environment of substance(s) that may have an adverse effect;
- Any other information that the Director considers necessary to assess the proposed activity; and,
- The final TOR as issued by the Director;

Once completed, the EIA report is submitted to the EA Director for review. At any time, the Director may require the Proponent to provide additional information considered necessary for the review of the proposed activity. When the review team is satisfied that the nature of the proposed activity is well understood, the Proponent's description of potential effects and proposed mitigations are acceptable and the requirements of the TOR have been met, a recommendation is made to the AESRD's EA Director.

The EA Director considers the EIA report along with the recommendation made by the review team and makes a determination if the EIA report is complete. If so, the completed EIA report is formally referred to one of the Province's Regulatory Boards for a decision on whether it is in the public interest to allow the proposed project to proceed. Though there is no set formula to determine whether or not a project is in the public interest, at a minimum the project must provide benefits and not result in serious harm to the community, natural environment, or human health.

The Regulatory Board will then determine if the project is in the public interest and if so, grant permission to proceed with completion of the required EPEA approvals process. An approval under the EPEA covers the entire life-cycle of a project and establishes specific requirements for construction, operation, monitoring, and reporting. EPEA approvals are renewable, and have terms up to 10 years. As identified under the Activities Designation Regulation (AR 276/2003) an energy from waste facility will be subject to a Schedule 1 Approval as a waste management facility where more than 10 tonnes/months of waste is treated by physical, chemical, thermal or biological processes.

The Approvals and Registrations Procedure Regulation identifies at a high-level the requirements for submission of an EPEA Approval application, which are summarized in Appendix A. Some of the information required for an EPEA Approval application can be developed and derived from the EIA report, however a great deal of additional more detailed information regarding specifics of the design and operation of the facility is also required.

Throughout the regulatory approvals process, there are several stakeholder consultation requirements. Details of consultation activities are presented in the Communications Plan.

2.2.2 Water Act

Alberta's Water Act (Water Act) supports and promotes water conservation and management while recognizing the water demands to facilitate Alberta's economic growth and prosperity. The Water Act requires an approval and/or license before undertaking a construction activity in a water body or before diverting and using water from a water body. Under the Water Act a license is required to divert water for all purposes except household, traditional agriculture or where use is exempt under the Water (Ministerial) Regulation, for example the diversion of water for firefighting.

Proponents may apply for an approval, license, or transfer of a water allocation under the Water Act. However, AESRD is no longer accepting applications for new water allocations in the Bow, Oldman, and South Saskatchewan River sub-basins based on recommendations

contained in the Water Management Plan for the South Saskatchewan River Basin. Instead, those seeking approval to divert water in these areas must do so through water allocation transfers.

Simply put, a water allocation transfer involves acquiring an existing license to divert water from an existing licence holder. For a water allocation transfer to be considered, the Proponent must make an application under the Water Act. Water allocation transfer applications are subject to a review process. The review process considers a number of factors including:

- Effects on the aquatic environment and public safety;
- Hydraulic, hydrological, and hydrogeological effects;
- Effects on other users; and,
- Any other matters considered relevant.

Dependent on the type of cooling system employed, it is anticipated that an energy from waste facility for Southern Alberta may consume water in the range of roughly 250 to 1,900 m^3 per day, primarily as boiler feed or cooling system make-up water. Because of the importance of prudent water management in southern Alberta, it is recommended that adequacy of water supply be considered as a criteria in the site selection process (see Siting Plan) and that water conservation be considered as an evaluation criteria in identification of the preferred project developer and technology (see Procurement Plan).

2.2.3 Alberta Energy Regulator

In 2013, the Energy Resources Conservation Board (ERCB) was succeeded by the Alberta Energy Regulator (AER). Proponents of all proposed energy resource development activities (i.e. oil, oil sands, natural gas and coal) are required to submit an application to the AER, a corporation operating at arm's-length from the Alberta government. Preliminary informal conversations with the AER confirmed that an energy from waste project in Alberta would not be within AER's area of focus, which focuses on Alberta's natural hydrocarbon energy resources.

2.2.4 Electric Utilities Act and Hydro and Electric Energy Act

The electricity sector in Alberta is governed by the Electric Utilities Act which is administered by Energy Alberta and the Alberta Utilities Commission (AUC). An energy from waste facility would be an electric generator facility that would fall under the requirements of AUC Rule 007 "*Applications for Power Plants, Substations, Transmission Lines, and Industrial Systems Designations*". Under AUC Rule 007, any person intending to construct, connect, operate, or

alter power plants, substations, transmission lines, or industrial system designations must file an application with the Commission, unless otherwise directed by the Commission. An application under AUC Rule 007 would be necessary for construction of an energy from waste facility in Southern Alberta.

AUC Rule 007 lists application requirements and information needs. Information needs include the EIA report if one has been undertaken and a substantial amount of additional facility-specific information.

It should be noted that under Section 95 of the Electric Utilities Act "…no municipalities and no subsidiary of a municipality may hold, directly or indirectly, an interest in a generating unit except…" under certain circumstances which include:

> *"If the arrangement under which the interest is held is structured in a manner that prevents any tax advantage, subsidy or financing advantage or any other direct or indirect benefit as a result of association with the municipality or subsidiary"* (EUA, 2003)

This matter should be considered further in the future as SAEWA moves forward with planning and establishment of the business arrangements for energy from waste (see Initial Business Plan).

2.2.5 Alberta Electric System Operator

Alberta has an open competitive market system for electricity which is run by the Alberta Electric System Operator (AESO). Market participants (generators, consumers and marketers) must join AESO and comply with its rules. AESO provides access to Alberta's electricity grid and facilitates Alberta's wholesale electricity market. AESO is heavily involved in any electricity connection or transmission system change in the province.

Development of an energy from waste project will require an electricity grid connection and may also require transmission system modifications, dependent on the status of the local transmission system in the vicinity of the preferred site.

To connect to the electricity grid, energy producers must follow a multi-stage process that requires a substantial amount of time and resources and close coordination with the AESO and a number of other participants. Appendix B contains a figure illustrating the connection process with defined target timelines spanning a period of 8 months. The connection process can be summarized as including the following steps:

- Stage 0 – Identify project;

- Stage 1 – Connection study scope;
- Stage 2 – Connection proposal;
- Stage 3 – Need identification document & facility application;
- Stage 4 – Application filings & AUC approval;
- Stage 5 – Construct & prepare to energize; and,
- Stage 6 – Energize, commission & close.

The Proponent (i.e. "Market Participant") is required to pay all costs associated with completing the connection process.

2.2.6 Gas Utilities Act

Some energy from waste technologies available to SAEWA can produce syngas which can then be used as a fuel. The Gas Utilities Act, which is administered by AUC, governs gas utilities in Alberta except for natural gas co-ops and most municipally owned utilities. Should SAEWA proceed with an energy from waste option that involves production, transmission and sale of syngas, dependent on the business structure arrangements, AUC's Rule 020 – "*Rules Respecting Gas Utility Pipelines*" may come into play. Rule 020 includes a number of specific requirements relating to: a) application for a license to construct and operate a gas utility pipeline; and b) conduct of a participant involvement, consultation and notification program.

2.2.7 Development Related Legislation and Regulations

Additional legislation and regulations that would be expected to apply to the development, construction and operation of an energy from waste facility include the following:

- The Alberta Land Stewardship Act
    - Regional Land Use Plans
        - South Saskatchewan Regional Plan (Currently under consultation)
        - Red Deer Regional Plan (Future)
        - Little Bow River inter-municipal development plan: Vulcan County and Municipal District of Willow Creek

Draft South Saskatchewan Regional Plan

Under the Alberta Land Stewardship Act, the Lieutenant Governor in Council may establish integrated planning regions which can then develop individual regional plans. Accordingly, seven land-use framework regions have been established for Alberta. The SAEWA area encompasses lands within the South Saskatchewan region, the Red Deer region and the North Saskatchewan region.

Regional plans for the Red Deer and North Saskatchewan regions have not yet been started, however in October 2013, the Province released the draft South Saskatchewan Regional Plan (SSRP) for comment. Once authorized, the SSRP will be applied within the existing framework of acts, regulations and strategies governing land-use and development. These acts, regulations and strategies are administered at both the provincial and municipal governmental levels.

The area of the SSRP encompasses many of the areas where SAEWA's member communities are located. The SSRP will establish a regional framework for management of the cumulative effects of development addressing ambient air quality, surface water quality, groundwater and biodiversity. In addition to identifying a number of key principles to guide land development, the draft SSRP identifies several objectives and strategies that are relevant to SAEWA and its contemplated energy from waste project including:

- Support for responsible development of renewable energy;
- Support to maintain biodiversity;
- Management of air quality including monitoring, limits, triggers levels and responses for key indicators;
- Management frameworks for surface water and groundwater;
- Water supply;
- Planning and development of sustainable communities; and,
- Land use planning that is inclusive of Aboriginal peoples.

Once adopted, it is expected that the SSRP would influence SAEWA's development of an energy from waste facility. Should SAEWA decide to proceed with development of an energy from waste facility, it will be necessary to further examine the implications of these and other location-specific pending approvals/permitting processes and incorporate any additional applicable requirements into the Siting and Regulatory Plans for implementation.

2.3 MUNICIPAL

Permits and approvals associated with land use and community development are key municipal functions that will influence development of an energy from waste facility. The provincial government provides direction to municipalities through the Municipal Government Act, Provincial Land-use Policies, Regional Land Use Plans and the Subdivision and Development regulation.

Municipalities have authority for administration of land-use planning, development and the application of certain codes and regulations, utilizing the following to document and communicate requirements:

- Municipal development plans;
- Structure area plans;
- Zoning by-laws;
- The Alberta Building Code;
- The Canadian Electrical Code;
- The Alberta Fire Code;
- The Gas Code Regulation;
- The Plumbing Code Regulation;
- The Private Sewage Disposal Systems Regulation; and
- The Alberta Electrical Utility Code.

As the primary control mechanisms for land use, municipalities require development permits, subdivision approvals, and/or by-law amendments/variances (if necessary) to be obtained prior to implementation of proposed developments. These approval processes will typically involve review of the proposed development, taking into consideration many factors, such as the following:

- Consistency with local municipal planning and land-use policies
- Compatibility with surrounding area land-uses, potential for impacts and mitigations required
- Potential demands on existing/future infrastructure (i.e. traffic, water supply, waste water, electricity etc.)
- Architectural and landscaping appearance
- Lot size and set-back distances
- Natural environment
- Public feedback
- Coordination of approvals required (energy, conservation etc.)

Alberta's Safety Code Act and Permit Regulation will need to be followed in development of an energy from waste facility. These regulatory instruments identify the code requirements and permits needed for various different types of projects in Alberta. Services related to codes and permits are delivered through collaboration between the Province, municipalities and/or other accredited agencies.

Required permits and approvals can only be determined after a preferred site is chosen. As project development proceeds, it will be necessary to further examine the implications of these and other location-specific approvals and permitting processes and incorporate any additional applicable requirements into the Siting and Regulatory Plans for implementation. At that time consideration should be given as to which requirements can be best addressed by SAEWA and which can appropriately delegated to a facility developer/vendor.

2.4 FEDERAL

The Canadian federal government has expressed its commitment to exercising leadership in anticipating and preventing the degradation of environmental quality. Two pieces of legislation that support this commitment are the Canadian Environmental Assessment Act (CEAA) and the Fisheries Act (FA).

2.4.1 The Canadian Environmental Assessment Act

A new energy from waste facility could trigger a federal environmental assessment (EA), under the Canadian Environmental Assessment Act (CEAA), in addition to a provincial environmental impact assessment. The following lists several potential project-specific scenarios that could trigger the requirement for approval under the CEAA:

- The provision of federal funds for the project from a non-exempt federal program for the project;
- The sale of federally owned land to the Proponent and/or the private sector for the project;
- Federal permitting/approvals which could potentially be required for:
    - Approval for alteration of a watercourse for construction of the facility (i.e. under the Fisheries Act); and/or,
    - Permits for handling and disposal of specified risk material (i.e., approval from the Canadian Food Inspection Agency, Canadian Transport Agency); and/or,
    - Amendment to or approval under a federal Airport Zoning Regulation;
- Potential adverse effects to the following:
    - Fish, fish habitat and other aquatic species (i.e. Species at Risk);
    - Other aquatic species;
    - Migratory birds; and,
    - Federally owned lands;
- Trans boundary effects (i.e. inter-provincial or international);

- Effects that impact on Aboriginal peoples, such as their use of lands and resources for traditional purposes; and,
- Changes to the environment that are directly linked to or necessarily incidental to any federal decisions/approvals about a project.

Typical timelines for the CEAA process are as follows:

Preparation and submission of CEAA documentation:	4 to 6 months, depending on specific scope and studies required
Project description review	45 days
Public comment	20 days (embedded within 45-day review period above)
Notice of Review Panel	Within 60 days of EA initiation
EA decision	365 days
EA decision (if Review Panel)	24 months

If both federal and provincial EA processes are required, it is expected the harmonized process provided for in the Canada-Alberta Agreement on EA Cooperation (2005) would be applied to streamline concurrent completion of a joint provincial EIA and federal EA.

At this point in the project, because the proposed site has not been identified, it is not possible to determine whether or not a federal environmental assessment will be required for development of a SAEWA energy from waste facility. In the Siting Plan, it is recommended that identification of federal EA triggers be included as an element for evaluation in the site selection process.

2.4.2 Fisheries Act

The Fisheries Act was established to manage and protect Canada's fisheries resources. Section 35 of the Fisheries Act states that no person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat. This legislation supersedes all provincial legislation, and provincial approval does not guarantee approval under this act.

The location and setting of the site and proposed on-site activities will determine whether or not Fisheries Act approval is required. Sites located near existing fish habitat may require

approval under the Fisheries Act. An approval required under the Fisheries Act would also trigger the requirement for a federal EA.

If Fisheries Act approval is required, the following information will be required to be submitted:

- Identification of the water body name and location;
- Detailed description of the work site;
- Creek habitat inventory by qualified fisheries biologist; and
- Measures incorporated into the design of the facility that would result in no net loss of fisheries habitat (this is often accomplished by way of improvements to down stream habitats).

The Fisheries Act allows for projects that are sited, designed, and constructed in a manner that avoids impacts to fish and fish habitat to proceed without contacting Fisheries and Oceans Canada for review or authorization.

At this point in the project, because the proposed site has not been identified, it is not possible to determine whether or not a Fisheries Act approval will be required for development of SAEWA's energy from waste facility. In the Siting Plan, it is recommended that identification of potential Fisheries Act triggers be included as an element for evaluation in the site selection process.

2.4.3 Specified Risk Material

Specified risk material (SRM) is the deadstock cattle tissue capable of transmitting Bovine Spongiform Encephalopathy (BSE). Controls related to the collection, movement, treatment, and disposal of specified risk material are in place to help prevent the spread of BSE. A permit from the Canadian Food Inspection Agency (CFIA) is required for the handling, transporting or disposing of specified risk material, except when disposing or treating specified risk material on the premises of origin.

Should SAEWA wish to accept SRM as a feedstock material for an energy from waste facility, it is expected that as a minimum, the following would be required:

- Maintain SRM as a separate, segregated material stream;
- Pre-grinding of SRM and introducing it into the energy from waste system as a separate, supplementary fuel or material input; and,
- Combustion-based systems will be required to ensure that temperature and retention time are sufficient to achieve the necessary destruction.

CFIA permitting would also trigger a federal environmental assessment. At this time, SAEWA has not decided whether it wishes to accept SRM as a feedstock material in its energy from waste facility therefore it is not possible to determine whether or not a CFIA permit will be required for development of SAEWA's energy from waste facility.

2.4.4 Airport Zoning Regulations

Transport Canada may establish airport zoning regulations under the federal Aeronautics Act. The airport zoning regulations impose limitations on the on the height, location and nature of developments in the vicinity of an airport, in order to prevent aviation safety hazards. Some airport zoning regulations establish minimum separation distances between the airport and any waste management facilities. Many provincial authorities and municipalities have reflected airport zoning restrictions in their land use and development plans.

Identification of specific candidate sites should include a review the status of the site with respect to possible structure height restrictions or restrictions on development of waste management facilities due to airport restrictions. Dependent on the specific zoning regulations for an airport facility, there may be a need to obtain federal authorization for amendment or approval under an airport zoning regulation that could also trigger the requirement to complete a federal environmental assessment.

At this point in the project, in the absence of identification of a proposed site, it is not possible to determine whether or not Airport zoning will raise any issues for development of an energy from waste facility. In the Siting Plan, it is recommended that identification of potential airport zoning restrictions be included as an element for evaluation in the site selection process.

3.0 REGULATORY REQUIREMENTS PLAN

The recommended regulatory requirements plan includes the following five activities:

- Regulator Communications
- Environmental Impact Assessment Report
- Integrated Approvals Application
- Power Delivery Approvals
- Municipal Approvals and Permits

The following subsections provide details of the recommended activities.

3.1 ACTIVITY 1: REGULATOR COMMUNICATIONS

Despite a long history internationally, recovering energy from municipal solid waste may be considered a new or unfamiliar waste management approach in Alberta. With the exception of the recent waste to biofuels facility that is being developed in Edmonton, no other facilities utilizing municipal solid waste to generate energy have been developed in Alberta in over two decades. Therefore, it is important that SAEWA works closely with regulators to understand and respond to their requirements and expectations. Communication with regulators has already begun with preliminary discussions (see Section 2.1) and should continue throughout the course of project development.

Following a decision to proceed with project development, SAEWA should conduct project initiation meetings with key regulators to

- Outline SAEWA's proposed project development plan;
- Reaffirm the detailed regulatory requirements;
- Identify any remaining areas of uncertainty and/or gaps and develop approaches to address such matters;
- Identify roles and responsibilities of the various parties involved;
- Establish lines of communication;
- Achieve a clear and common understanding of the regulatory expectations for the project; and,
- Define a timetable of subsequent progress meetings/communications according to key progress milestones.

After conducting the regulatory project initiation meetings, it may be necessary to update and revise the Regulatory Requirements Plan and schedule to address any changes arising from the discussions.

Frequent communication with regulators after the project initiation meetings is important to ensure SAEWA is meeting regulatory requirements effectively and efficiently. Communication with key regulators should take place quarterly as a minimum while project development is on-going, and more frequently if preferred by the agency representatives during specific phases of project development activity. As the project progresses, it may be necessary to include other parties in the regulatory communications to address specific issues as they arise. Regular communication methods should include in-person meetings, telephone conversations, workshops and written correspondence (including email) as necessary.

Activity 1 Summary	
Objective	— To obtain guidance and direction on regulatory requirements — Engage, involve and inform regulators as key stakeholders
Timeline	— Commence shortly following SAEWA's decision to proceed with project development — Estimated duration: On-going throughout project development and construction
Desired Outcomes	— Refine regulatory requirements plan after regulatory initiation meeting(s) — Develop strong working relationships with regulators — Allow SAEWA and regulatory agencies to anticipate and respond to issues as they arise

3.2 ACTIVITY 2: ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Based on preliminary communication with AESRD, an EIA report will be required for development of an energy from waste facility in southern Alberta, unless otherwise determined by a screening process. The EIA report must address the project activities proposed to be undertaken at the preferred site. Depending on the preferred site and potential activation of triggers, if a federal EA is also required, it is expected that the processes will be carried out jointly and harmonized in accordance with the Canada-Alberta Agreement for Environmental Assessment Cooperation. At this time it cannot be determined if a federal EA will be required.

Completing an EIA report requires conducting a number of technical studies and makes up the backbone of the environmental regulatory decision-making process for many large projects in Alberta. Based on the requirements of the EPEA and information presented in AESRD's "*Guide to Preparing Environmental Impact Assessment Reports in Alberta"* it is anticipated that the EIA process will require completion of the following:

- Proposed EIA TOR;
- Technical Assessment Study Reports (as a minimum):
    - Air Quality Assessment;
    - Water Quality, Terrestrial, Aquatic and Ecological Assessment;
    - Surface Water and Groundwater Assessment;
    - Facility Energy and Life Cycle Assessment;
    - Geotechnical Investigation;
    - Acoustic Assessment;

  - Natural Environment Assessment;
  - Social/Cultural Assessment;
  - Archaeological and Built Heritage Assessment;
  - Transportation Logistics and Traffic Assessment;
  - Economic Assessment;
  - Site Specific Human Health and Ecological Risk Assessment;
  - Additional Technical Studies identified in the TOR; and,
- EIA Report containing information on project rationale, assessment of alternatives to the undertaking, technical study reports, potential project impacts and mitigations.

The exact EIA report requirements will be outlined in the finalized TOR following its acceptance by AESRD. AESRD has indicated that should SAEWA choose to proceed, its project will be required to comply with air emission criteria relevant to energy from waste as defined by the Canadian Council of Ministers of the Environment (CCME), in addition to meeting Alberta's Ambient Air Quality Objectives (AAAQO). These requirements will be reflected in both the EIA process and the subsequent integrated approvals application process.

It is important to note that the site selection process (See Siting Process Plan) is closely related to and will contribute to completion of the EIA report. Some elements of background work on the EIA report will have already commenced during the site selection process as described in the Siting Process Plan. The specific scope of work for each of the technical studies will need to be developed based on the final TOR.

Consultation is an important element of the EIA process and is described in detail in the Communications Plan.

Activity 2 Summary	
Objective	— To complete the regulatory EIA process
Timeline	— To begin during late stages of siting process — Estimated duration: 18 months
Desired Outcomes	— Finalized TOR and scopes of work for technical studies — Completion of technical studies — Finalized EIA report

3.3 ACTIVITY 3: INTEGRATED EPEA APPROVALS APPLICATION

Large industrial projects typically require a number of government approvals before beginning construction and operation. To streamline approvals, the government of Alberta allows proponents of projects requiring multiple approvals to submit an integrated application. An

integrated application involves submitting all approval documents in a single package to allow for concurrent review of information. An integrated application eliminates unnecessary duplication of information and streamlines the approvals process.

Some of the information required for an energy from waste facility integrated application would be contained within the EIA report (i.e. background information, baseline conditions, site and impact assessments, mitigation plans and management techniques). However, a great deal of additional detailed facility-specific design, construction and operational information will also be required as outlined in AESRD's "*Guide to Content for Industrial Approval Applications*"[1].

A preliminary list of the anticipated integrated application components includes:

- EPEA Schedule 1 Approval application for a waste facility;
    - Application form and fees;
    - Detailed facility specific supporting information as listed in AESRD's "*Guide to Content for Industrial Approval Applications*";
- AUC Rule 007 application including:
    - Description of the number of generating units and the total capacity for the project;
    - Details of the power generating equipment and associated facilities, such as make, model and nominal capacity;
    - Estimated power plant heat rates, efficiency and details of cooling system;
    - Fuel requirements of the power plant including type, source, method of handling, transportation and environmental effects;
    - Projected annual electric energy production;
    - Plant size drawing showing all major equipment components;
    - Electrical single-line diagram obtained from the ISP or sanctioned by the ISO showing the transmission development plan for the interconnection; and,
    - A map with one or more conceptual layouts showing possible routes and general land locations for facilities that would be used to interconnect the power plant to the Alberta Interconnected Electrical System.
- Finalized EIA report for reference; and,
- Application fees.

[1] http://environment.gov.ab.ca/info/library/8772.pdf

Because these applications require a substantial amount of facility-specific design, construction and operational information, it is recommended that these approvals applications be incorporated into the scope of work for the project developer/vendor selected by SAEWA through its procurement process (See Procurement Process Plan).

Activity 3 Summary	
Objective	— To complete regulatory approvals process following acceptance of the EIA
Timeline	— Following decision in the public interest on the EIA report — Estimated duration: 6 months (depending on regulator reviews)
Desired Outcomes	— Issuance of regulatory approvals

3.4 ACTIVITY 4: AESO CONNECTION

Section 2.2.5 and the figure contained in Appendix B prepared by AESO, describe the six stage, step-by-step process SAEWA must follow to connect to Alberta's electricity grid. The AESO connection process involves co-operative efforts of transmission system owners, the Proponent and AESO. At Stage 0, the Proponent (or market participant) submits a System Access Service Request (SASR) to AESO to initiate the connection process. The SASR consists of basic applicant information and a general description of the project. The first step in Stage 1 is to hold a kick-off meeting with the AESO to determine the complexity of the connection and assess the level of each party's involvement in the connection studies and complete the Connection Plan. The customer must also complete the Stage 1 Project Data Update package at this time. Once the Connection Study Scope document is completed and reviewed, the document is signed by the Customer, AESO, and the Transmission Facility Owner. During Stage 2, the connection studies are completed and the Connection Proposal is finalized. Connection studies include:

- Power flow studies;
- Power flow sensitivity studies;
- Short circuit analysis;
- Transient stability analysis;
- Transient sensitivity analysis studies;
- Motor starting studies (where applicable);
- Restoration studies; and,

- An engineering report signed and stamped by a Professional Engineer registered within the province of Alberta.

The Needs Identification Document (NID) and Facility Application (FA) are completed during Stage 3 and filed with the AUC during Stage 4. The connection process is completed during Stage 5 and Stage 6 where construction and energization occur.

Initial discussions with AESO indicated that exact details of AESO's requirements in terms of costs, timelines and details of information required are determined on a case-by-case basis when more details about a generating facility are known. Regular communication and coordination with AESO and the other parties involved in this process will be very important. Completion of the AESO connection process is a collaborative effort that will involve participation of the Proponent (i.e. SAEWA), SAEWA's project developer/vendor, SAEWA's project management lead, AESO, and local electrical utilities.

Activity 4 Summary	
Objective	— To obtain AESO approval for connection to the electrical grid and complete transmission system upgrades, if required
Timeline	— Commence as early as possible following selection of the preferred site and the project developer/vendor — Estimated duration: ongoing throughout project development (estimated minimum of 8 to 12 months)
Desired Outcomes	— Upgrades to transmission system (if required) and connection to the electrical grid

3.5 ACTIVITY 5: MUNICIPAL APPROVALS AND PERMITS

The specific municipal permits and approvals required for an energy from waste facility and their application processes vary based on location. For that reason, it is not possible to determine the precise municipal regulatory requirements without first knowing the location and details of the preferred site. However, at a minimum, an energy from waste facility would require the following municipal permits, as described in Alberta's Permit Regulation:

- Building;
- Electrical;
- Gas;
- Plumbing; and
- Sewage disposal systems.

Depending on the business development model chosen (See Procurement Plan) responsibility to obtain municipal approvals and permits is often delegated to the project developer/vendor to be carried out during the design of the facility. The first step is to determine which municipal approvals and permits are required and what information is necessary to complete permit applications. Next, the party responsible for municipal permits should submit required permit applications and related application material.

Activity 5 Summary	
Objective	— To obtain municipal permits and approvals
Timeline	— Commence during facility design — Estimated duration: 4 to 6 months
Desired Outcomes	— Required Municipal Permits and Approvals

3.6 RESOURCES

Several different resources will be required to complete the Regulatory Requirements Plan. Carrying out the work described requires an experienced project leadership group working in collaboration with a diverse group of specialists and subject-matter experts. To provide effective leadership of the overall project development plan and contribute to the regulatory program, it is recommended that SAEWA designate the following key roles from among its representatives:

SAEWA's project steering group:

- Liaison between SAEWA membership and the project team;
- Guides implementation of the project development plan;
- Provides direction to the project team and expedites day-to-day decisions on behalf of SAEWA as necessary to advance the project;

SAEWA's designated representative(s):

- Represents SAEWA in meetings and discussions with regulators.

The following table summarizes the credentials recommended for the members of the regulatory team.

Table 1: Regulatory Team

Activity	Required Resources	
	Description	**Minimum Credentials**
Activity 1: Regulator Communications	SAEWA's project steering group	—Designated and authorized by SAEWA —Experience in management of municipal capital works
	SAEWA's designated representative(s)	—Designated and authorized by SAEWA —Experience working with regulators in Alberta
	Project Management Lead (spans all activities)	Minimum 10 years experience in: — Development and approvals for large waste management projects in Canada — Energy from waste facility, engineering, specifications, design, construction and operation — Procurement, public consultation and project management.
	Support from subject matter experts identified below as required	As below
Activity 2: Environmental Impact Assessment Report	SAEWA's project steering group	As above
	SAEWA's designated representative(s)	As above
	Project Management Lead supported by subject matter experts for various disciplines including:	As above
	Air Quality Assessment	Air quality scientist with experience performing air quality assessments in Alberta
	Water Quality, Terrestrial, Aquatic and Ecological Assessment	Professional ecologists and scientists with minimum 10 years of experience performing water quality, terrestrial, aquatic, and ecological assessments in southern Alberta
	Surface Water and Groundwater Assessment	Professional hydrologist and hydrogeologist with minimum 10 years of experience licensed in Alberta
	Facility Energy and Life Cycle Assessment	Professional scientist/engineer with minimum 5 years experience in performing life cycle assessments for solid waste management

Activity	Required Resources	
	Description	**Minimum Credentials**
	Geotechnical Investigation	Professional geotechnical engineer with minimum 10 years of experience licensed in Alberta.
	Acoustic Assessment	Acoustic assessment expert with minimum 10 years experience conducting industrial facility assessments
	Natural Environment Assessment	Natural environment expert with minimum 10 years experience conducting similar assessments in Alberta
	Social/Cultural Assessment	Social/cultural assessment expert with minimum 10 years experience conducting similar assessments in Alberta
	Archaeological and Built Heritage Assessment	Archaeologist with minimum 10 years experience in southern Alberta.
	Traffic Assessment	Professional transportation engineer with minimum 10 years of experience licensed in Alberta
	Economic Assessment	Economist with minimum 10 years of experience assessing economic impacts of large industrial projects
	Site Specific Human Health and Ecological Risk Assessment	Specialist with minimum 10 years of experience conducting scientific human health and ecological risk assessments for industrial and waste management facilities in North America
Activity 3: Integrated Application	SAEWA's project steering group	As above
	SAEWA's designated representative(s)	As above
	Led by facility developer/vendor to be selected through procurement process (See Procurement Plan)	To be determined
	Support and oversight by Project Management Lead assisted by subject matter experts identified above if required	As above
Activity 4: AESO Connection	SAEWA's project steering group	As above
	SAEWA's designated representative(s)	As above
	Led by facility developer/vendor to be selected through procurement process (See Procurement Plan)	To be determined

Activity	Required Resources	
	Description	Minimum Credentials
	Support and oversight by Project Management Lead assisted by subject matter experts identified above if required	As above
Activity 5: Municipal Approvals and Permits	SAEWA's project steering group	As above
	SAEWA's designated representative(s)	As above
	Led by facility developer/vendor to be selected through procurement process (See Procurement Plan)	To be determined
	Support and oversight by Project Management Lead assisted by subject matter experts identified above if required	As above

3.7 BUDGET

The costs to execute the regulatory plan can be influenced by a number of factors including:

- Outcomes of the siting process including the characteristics and setting of the preferred site;
- Additional regulatory requirements that may arise beyond those identified herein (e.g. federal triggers);
- Outcomes of stakeholder consultations;
- Specific requirements of the utility connection process;
- Availability of required resources and specific scope requirements and outcomes of technical assessment studies;
- Outcomes of procurement and allocation of roles and responsibilities to project developer/vendor; and,
- Scheduling and coordination needs.

Bearing in mind that costs can vary based on factors mentioned above and recognizing that there remain a number of areas of uncertainty and potential for change, an initial budget estimate for the regulatory plan is presented in Table 2. It should be recognized that this budget estimate is approximate and cannot reasonably address all eventualities that may occur. It is recommended that project budgets be periodically reviewed and revised to address changes in the work plan that occur as the project proceeds.

Table 2: Preliminary Regulatory Requirements Budget

Task	Description	Units	Qty	Unit Price	Task Totals	Activity Totals
	Activity 1: Plan Management and Regulator Communications					***$ 404,000***
1.1	Regulatory Requirements Plan Management and Coordination	%	10	NA	$ 279,000	
1.2	Project Initiation Regulatory Meetings	LS	1	$ 25,000	$ 25,000	
1.3	On-going Regulator Communications	LS	1	$ 100,000	$ 100,000	
	Activity 2: Environmental Impact Assessment					***$ 2,090,000***
2.1	Prepare EIA Terms of Reference	LS	1	$ 125,000	$ 125,000	
2.2	Respond to Reviewer Inquiries and Finalize EIA Terms of Reference	LS	1	$ 20,000	$ 20,000	
2.3	Scope and Coordinate Technical Studies	LS	1	$ 200,000	$ 200,000	
2.4	Conduct Air Quality Assessment	LS	1	$ 600,000	$ 600,000	
2.5	Conduct Water Quality, Terrestrial, Aquatic and Ecological Assessment	LS	1	$ 40,000	$ 40,000	
2.6	Conduct Surface Water and Groundwater Assessment	LS	1	$ 80,000	$ 80,000	
2.7	Conduct Facility Energy and Life Cycle Assessment	LS	1	$ 50,000	$ 50,000	
2.8	Conduct Geotechnical Investigation	LS	1	$ 50,000	$ 50,000	
2.9	Conduct Acoustic Assessment	LS	1	$ 40,000	$ 40,000	
2.10	Conduct Natural Environment Assessment	LS	1	$ 30,000	$ 30,000	
2.11	Conduct Social/Cultural Assessment	LS	1	$ 40,000	$ 40,000	
2.12	Conduct Archaeological and Built Heritage Assessment	LS	1	$ 40,000	$ 40,000	
2.13	Conduct Transportation Logistics and Traffic Assessment	LS	1	$ 80,000	$ 80,000	
2.14	Conduct Economic Assessment	LS	1	$ 40,000	$ 40,000	
2.15	Conduct Site Specific Human Health and Ecological Risk Assessment	LS	1	$ 500,000	$ 500,000	
2.16	Prepare and Submit EIA Report	LS	1	$ 125,000	$ 125,000	
2.17	Respond to Inquiries During Regulator Review of EIA Report	LS	1	$ 30,000	$ 30,000	
	Activity 3: Integrated EPEA Approvals Application					***$ 100,000***
3.1	Prepare and Submit Integrated EPEA Approvals Application	TBD - Include in Project Developer's Scope of Responsibility				
3.2	Prepare and Submit AUC Rule 007 Application	TBD - Include in Project Developer's Scope of Responsibility				
3.3	Allowance for Support and Oversight Review of Project Developer's Integrated EPEA Approvals Application and AUC Rule 007 Application	LS	1	$ 100,000	$ 100,000	
	Activity 4: AESO Connection					***$ 100,000***
4.1	Complete AESO Connection Process	TBD - Include in Project Developer's Scope of Responsibility				
4.2	Allowance for Support and Oversight Review of Project Developer's Completion of AESO Connection Process	LS	1	$ 100,000	$ 100,000	
	Activity 5: Municipal Approvals and Permits					***$ 100,000***
5.1	Municipal Approvals and Permits	TBD - Include in Project Developer's Scope of Responsibility				
5.2	Allowance for Support and Oversight Review of Project Developer's Municipal Approvals and Permits Applications	LS	1	$ 100,000	$ 100,000	
				Recommended Contingency (10%)		**$ 279,400**
				Regulatory Requirements Total		**$ 3,073,400**

3.8 SCHEDULE

A preliminary schedule for the activities involved in this Regulatory Requirements Plan has been developed and is presented in Appendix C. The schedule presented has been designed to correspond with other elements of SAEWA's project development plan. Some of activities may be carried out in parallel with others and some may be carried out concurrently with activities identified in the other Project Development Plan reports.

To streamline the schedule recognizing the importance of regulatory review time frames, it has been assumed that some preparatory tasks may be initiated before completion of review and final approval of precursor regulatory decisions. For example, it has been assumed that work to prepare the integrated EPEA and AESO applications can be commenced while regulatory review the EIA report is underway, so long as the EPEA and AESO applications are submitted only following final approval of the EIA. It should be recognized that this paralleling of preparatory activities carries some risk, should the conditions of the final regulatory approval change during the review process. As part of the initial regulatory communications, this streamlined approach should be reviewed with the regulators and confirmed as acceptable.

There remains some uncertainty as to some of the specific elements of the work program and as such the schedules presented are preliminary. It is recommended that schedules be periodically reviewed and revised to address changes in the work plans that occur as the project proceeds.

4.0 FINDINGS AND RECOMMENDATIONS

This report presents the Regulatory Requirements Plan component of SAEWA's project development plan. The preceding sections include an overview of regulatory requirements for development of an energy from waste facility; the processes that will need to be followed; identification of resources, a budgetary estimate and a schedule for SAEWA to complete the regulatory requirements plan.

The methodology presented in this report consists of the following activities:

1. **Communications with Regulators** – Establish and maintain good working communications with various key regulators to align expectations regarding regulatory processes and requirements and address issues that may arise;

2. **Environmental Impact Assessment** – Prepare and submit the Environmental Impact Assessment report anticipated to be required for development of an energy from waste facility;
3. **Integrated EPEA Approvals Process -** Prepare and submit the integrated approvals and AUC applications required for development of an energy from waste facility;
4. **AESO Connection Process –** Follow the AESO defined process for connection of an energy from waste facility to Alberta's electrical grid;
5. **Municipal Approvals and Permits -** Prepare and submit the municipal approvals and permit applications required for development of an energy from waste facility;

To complete the work involved in the regulatory requirements plan, SAEWA will need to establish its own project steering group and designated representative(s), as well as retain several resources including a project management lead, a number of subject matter technical experts and involve the project developer/vendor for the later, more detailed approvals applications.

APPENDIX A
SUMMARY OF REQUIREMENTS FOR SUBMISSION OF AN EPEA APPROVAL APPLICATION

Summary of Requirements for Submission of an EPEA Approval Application

Excerpted from "APPROVALS AND REGISTRATIONS PROCEDURE REGULATION AR 113/93"

"3(1) An application must be made to the Director and must be accompanied by the following information relative to the activity, the change to the activity or the proposed amendment, addition or deletion of the term or condition:

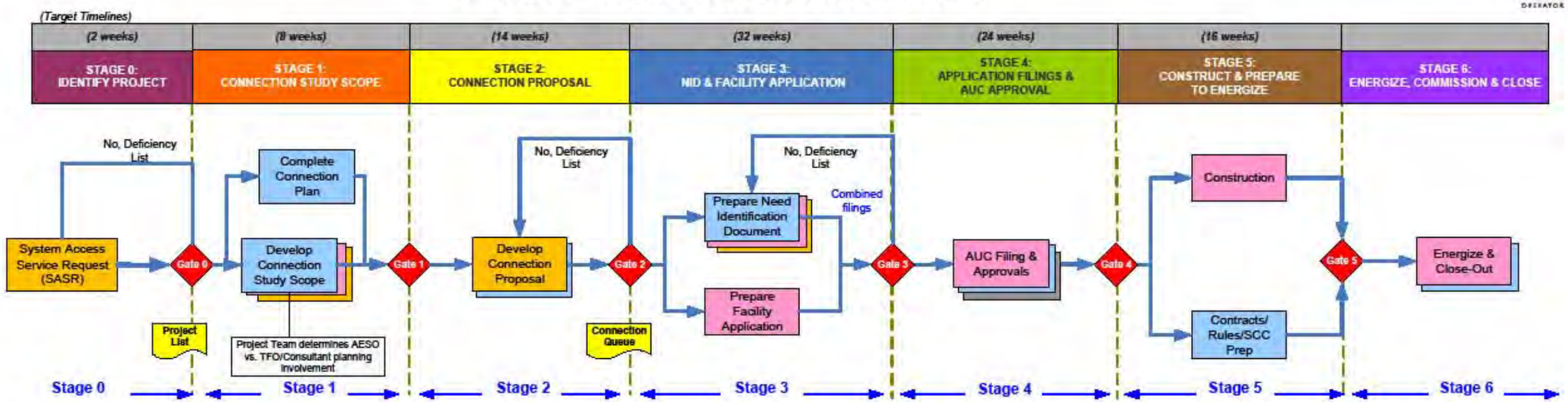
a) the name and address of the applicant;
b) the location, capacity and size of the activity to which the application relates;
c) the nature of the activity, the change to the activity or the amendment, addition or deletion, as the case may be;
d) where the applicant requires an approval from the Alberta Energy Regulator or the Natural Resources Conservation Board in relation to the activity, the date of the written decision in respect of the application;
e) an indication of whether an environmental impact assessment report has been required;
f) copies of existing approvals or registrations that were issued to the applicant in respect of the activity under this Act or a predecessor of this Act;
g) the proposed or actual dates for construction commencement, construction completion and commencement of operation;
h) a list of substances, the sources of the substances and the amount of each substance that will be released into the environment as a result of the activity, the change to the activity or the amendment, addition or deletion, as the case may be, the method by which the substances will be released and the steps taken to reduce the amount of the substances released;
i) a summary of the environmental monitoring information gathered during the previous approval or registration period;
j) a summary of the performance of substance release control systems used for the activity during the previous approval or registration period;
k) the justification for the release of substances into the environment as a result of the activity, the change to the activity or the amendment, addition or deletion, as the case may be;
l) the measures that will be implemented to minimize the amount of waste produced, including a list of the wastes that will or may be produced, the quantities and the method of final disposition of them;
m) any impact, including surface disturbance, that may or will result from the activity, the change to the activity or the amendment, addition or deletion, as the case may be;
n) confirmation that any emergency response plans that are required to be filed with the local authority of the municipality in which the activity is or is to be carried on or with Alberta Public Safety Services have been so filed;
o) confirmation that there are contingency plans in place to deal with any unforeseen sudden or gradual releases of substances to the environment;
p) the conservation and reclamation plan for the activity;
q) a description of the public consultation undertaken or proposed by the applicant;

r) information required under any other regulation under the Act to be submitted as part of or in support of the application;

s) any other information required by the Director, including information that is addressed in a standard, code of practice or guideline in respect of the activity that is published or adopted by the Department."

APPENDIX B
AESO CONNECTION PROCESS

CONNECTION PROCESS OVERVIEW



Key Activities:
- Market Participant submits SASR to AESO
- AESO reviews SASR for completeness
- Market Participant resolves any data deficiencies if required
- Section 101 waiver executed or DFO actively engaged (Load only)
- AESO Project is initiated

Stage 0 Gate Requirements:
- SASR is complete

Key Activities:
- Project team formation
- Project Kick-off meeting
- Identify AESO/TFO/ Consultant involvement in connection studies and Connection Proposal
- Complete Connection Plan
- Complete Connection Study Scope
- Market Participant submission of Stage 1 Project Data Update Package

Stage 1 Gate Requirements:
- Connection Plan signed by all parties
- Connection Study Scope signed by all parties.
- Stage 1 Project Data Update Package is accepted by AESO
- Non-Disclosure Agreement in place if Consultant is to perform studies
- Market Participant is responsible for all costs associated with preparation of the Connection Proposal if not completed by the AESO
- If using TFO, Market Participant to provide security for estimated TFO Stage 2 costs

Key Activities:
- Complete Technical Studies
- Market Participant completes or accepts Connection Proposal
- AESO completes Stage 2 CCD
- Market Participant submission of Stage 2 Project Data Update Package
- Market Participant enters into an agreement & provides security to cover estimated TFO costs for Stage 3 & 4

Stage 2 Gate Requirements:
- AESO accepts Connection Proposal (or Market Participant accepts if AESO completes)
- Stage 2 Project Data Update Package is accepted by AESO
- If using TFO, Market Participant to provide security for estimated TFO Stage 3 & 4 costs

Key Activities:
- Loss Factors provided to Market Participant
- Confirm Connection Proposal still valid
- Additional studies performed (as required)
- AESO completes Functional Specification (FS)
- AESO completes Stage 3 CCD
- Market Participant or TFO complete Connection Engineering Study Report for AUC Application (unless AESO performing work)
- AESO completes NID including Participant Involvement Program
- TFO submits a PIP Report to the AESO
- TFO completes PPS & FA
- Market Participant submission of Stage 3 Project Data Update Package
- AESO operating procedures are created or amended (if required)
- Market Participant agreement & security provided in Stage 2 reviewed & updated (as required)

Stage 3 Gate Requirements:
- FS executed & stamped
- NID compiled & ready to file
- Generator has filed Power Plant Application with AUC
- Stage 3 Project Data Update Package is accepted
- AESO receives confirmation Market Participant security is in place to cover estimated TFO Stage 3 & 4 costs

Key Activities:
- NID & FA filed with AUC
- Respond to IRs (as required)
- Hearing participation (as required)
- AUC decision
- AESO completes Stage 4 CCD (if required)
- Market Participant makes stage 5 Payment arrangements with incumbent TFO
- AESO performs Operational Studies (as required, work may occur in Stage 5)
- AESO operating procedures are created or amended (as required)
- AESO issues invoice for Generating Unit Owner's Costs (Generators only)

Stage 4 Gate Requirements:
- Permit & License received
- Market Participant pays Generating Unit Owner's Costs prior to construction commencement (2011 Tariff, Section 10)

Key Activities:
- TFO Construction of transmission facilities
- TFO/ Market Participant submit all Energization Package Requirements (includes Stage 5 PDUP)
- Market Participant & AESO sign the System Access Service (SAS) Agreement
- AESO operating procedures are created or amended (as required)
- Section 101 executed (Generation Only)

Stage 5 Gate Requirements:
- Market Participant SAS Agreement executed with final AESO sign-off at least 3 business days prior to start of month of energization
- AESO Operating Procedures are finalized (as required)
- CCD adjustments (as required)
- Transmission Trend/Change Authorizations approved (if required)
- Stage 5 Project Data Update Package and other Energization Package requirements are accepted
- Energization Checklist approved

Key Activities:
- Energize transmission facilities
- Commissioning period where applicable
- Generators to submit a validation report(WECC Generator Commissioning Report)
- Commissioning Certificate issued by AESO (Generators only)
- TFO finalizes project costs
- AESO completes final CCD
- Market Participant & TFO true up final costs
- AESO closes project
- SAS Agreement Updated

Stage 6 Gate Requirements:
- Energization Checklist issued
- Commissioning Certificate issued (Generators only)
- Final Cost & Procurement Report received from TFO (within 6 months of energization)
- Final CCD issued
- Final cost payment received (AESO owed only)
- AESO Project Closure Checklist completed

Legend

AESO = Alberta Electric System Operator
AUC = Alberta Utilities Commission
CCA = Construction Commitment Agreement
CCD = Customer Contribution Decision
DTS = Demand Transmission Service
FA = Facility Application
FS = Functional Specification
NID = Need Identification Document
PPS = Proposal to Provide Service
SASR = System Access Service Request
STS = Supply Transmission Service
TFO = Transmission Facility Owner
IR = Information Requests
OPP= Operation Procedures and Practices
SCP= System Control Procedure

Document symbol denotes where projects are added to the Project List or the Connection Queue.

Lead:
- AESO
- TFO
- Market Participant
- AUC

Tx Project Delivery

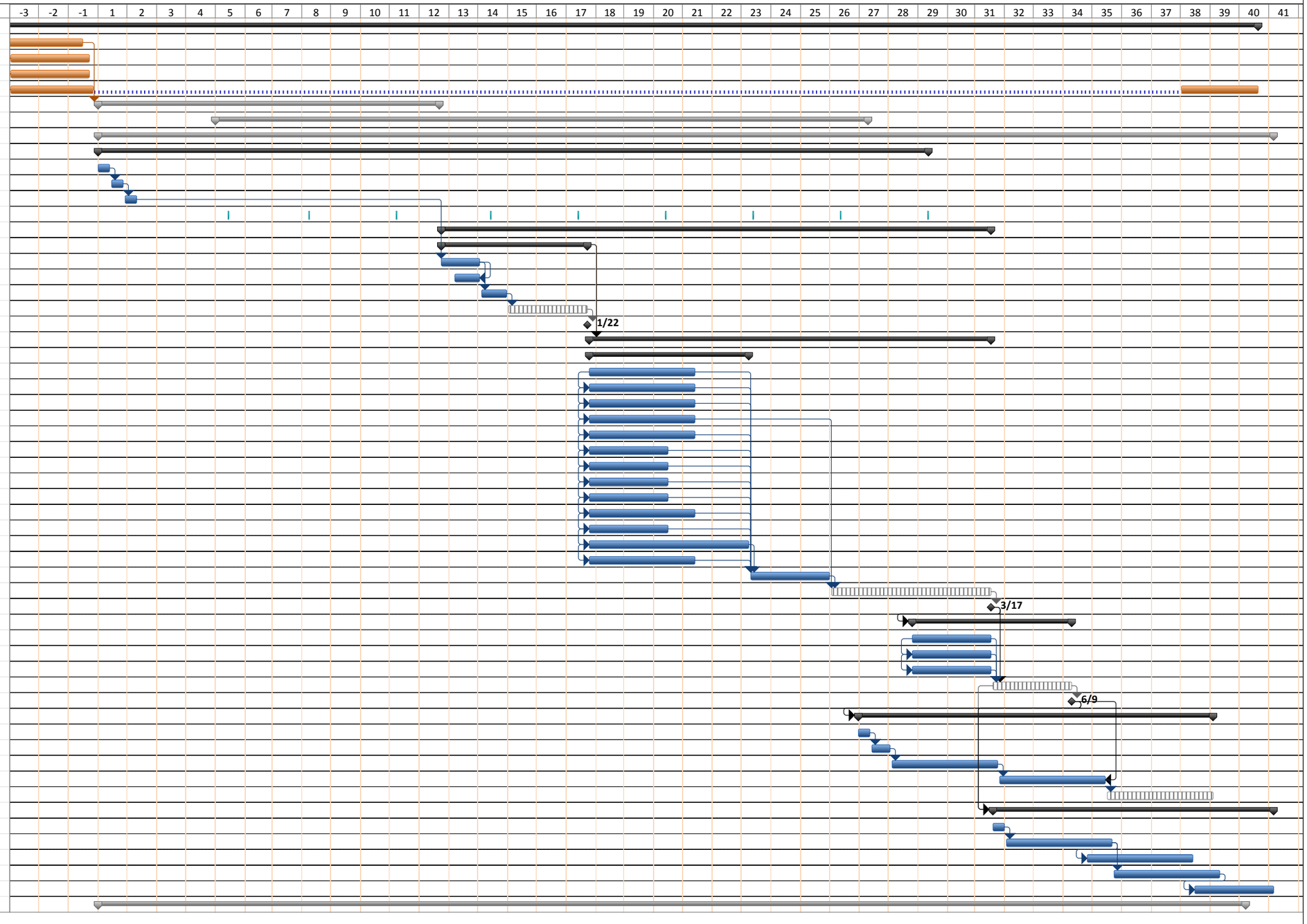
R10

2013-05-15

APPENDIX C
PRELIMINARY REGULATORY REQUIREMENTS SCHEDULE

SAEWA Project Development Plan
DRAFT PRELIMINARY SCHEDULE - REGULATORY

ID	Task Name
1	**Pre-Development Organizational Tasks**
2	Governance Structure
3	Secure Waste Supply and Conduct Waste Stream Analysis
4	Establish Funding for Early Project Development Activities
5	Establish Mechanisms for Financing Facility Capital and Operating Costs
6	**Siting**
7	**Procurement**
8	**Regulatory**
1	**Regulator Communications**
2	Prepare for Meeting with Regulators
3	Regulatory Project Initiation Meeting(s)
4	Refine Regulatory Requirements Plan
5	**Regulatory Update Meetings**
15	**Environmental Impact Assessment (EIA)**
16	**EIA Terms of Reference (TOR)**
18	Prepare Proposed EIA TOR
19	Prepare First Nations Consultation Plan (if required)
20	TOR Notification Period
21	EA Director Review
22	Final TOR Issued
23	**EIA Report**
24	**Technical Assessment Studies**
25	Air Quality Assessment
26	Water Quality, Terrestrial, Aquatic and Ecological Assessments
27	Surface Water and Groundwater Assessment
28	Facility Energy and Life Cycle Assessment
29	Geotechnical Investigation
30	Acoustic Assessment
31	Natural Environment Assessment
32	Social/Cultural Assessment
33	Archaeological and Built Heritage Assessment
34	Transportation Logistics and Traffic Assessment
35	Economic Assessment
36	Site Specific Human Health and Ecological Risk Assessment
37	Additional Technical Studies Identified in the Final TOR
38	Prepare and Submit EIA Report
39	EIA Review Period
40	Decision in the Public Interest
42	**Integrated Environmental Protection and Enhancement Act (EPEA) Application**
43	EPEA Schedule 1 waste facility application
44	AUC Rule 007 power generation facility application
45	Additional integrated EPEA application submissions required
46	Integrated application review period
47	Facility approval
48	**AESO Connection Process**
49	Stage 0: Identify Project
50	Stage 1: Connection Study Scope
51	Stage 2: Connection Proposal
52	Stage 3: NID & Facility Application
53	Stage 4: Application Filings &AUC Approval
54	**Municipal Regulatory Requirements**
55	Identify Applicable Municipal Regulations
56	Development Permits
57	Water License
58	Building, Electrical, Plumbing, Sewage, Gas Permits
59	Additional Municipal Permits
9	**Communications**



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