

# **Operating Plan**

**July 7, 2016**

## INTRODUCTION

This Draft Operations Plan was prepared in anticipation of successful permitting and construction of a new Organics Recycling Facility. SORT Bioenergy, LLC will own and operate the proposed organics recycling facility located at 10295 SW Ridder Road, Wilsonville, OR 97070. The facility will be constructed on approximately 3.5 acres of property that SORT Bioenergy will lease from Republic Services, 18500 North Allied Way, Phoenix, AZ 85054. SORT Bioenergy, LLC has cross access and operating agreements with the adjacent transfer station that is owned and operated by Willamette Resources Incorporated, a wholly owned subsidiary of Republic Services.

SORT Bioenergy, LLC has prepared this Operations Plan (Plan) to outline the proposed integration of personnel, structures and equipment into an efficient and effective operation. This Plan will be a living document subject to change based on changing conditions and the Plan will be updated to maintain an efficient, effective and compliant operation.

SORT Bioenergy will operate under several regulatory authorities.

1. The City of Wilsonville has approved SORT Bioenergy to operate under conditions stated in Development Review Board Resolution 327.
2. Oregon Department of Environmental Quality (DEQ) has approved SORT Bioenergy to operate under Solid Waste Disposal Site Permit No. TBD.
3. Metro has approved SORT Bioenergy to operate under Solid Waste Facility Franchise No. F-TBD

The intent of SORT Bioenergy's Operating Plan is to provide a safe, effective and efficient operational environment for our personnel. A safe, effective and efficient operational environment requires sound operational procedures. The Operations Plan addresses the following components:

Section 1: General Operations

Section 2: Employee Training

Section 3: Site Safety Measures

The Facility will have an Emergency Response Plan that will be a stand alone document that is incorporated by reference in the Operations Plan.

## **Section 1 General Operations**

### **A. Acceptable Feedstock Materials**

The primary feedstock that the Facility will receive and process is commercial food scrap materials consistent with Metro's commercial food waste program definition. Republic Services currently receives approximately 15,000 tons per year of commercial food scrap material that is transferred to Pacific Regional Compost for processing. In addition to commercial food scrap waste, the Facility will accept other liquid food waste related materials such as grease trap waste material, brewery wastes and bakery wastes.

The total design capacity of the Anaerobic Digestion Facility (Facility) is 65,000 tons per year. If commercial food scrap material is available for the Facility to process, then all capacity will be allocated to this primary feedstock. If there is not 65,000 tons per year of commercial food waste available to the Facility, then a secondary feedstock will be liquid fats, oils, grease and other liquids associated with food processing. The facility will not accept septage and all liquid materials will require certification from select haulers as to material characteristics.

### **B. Process Flow Description**

Food scrap material will enter the site through the existing entry into the WRI Transfer Station. All trucks will be routed to the existing scale house and control building. Each truck will be individually identified, and those trucks that are not recognized as commercial food scrap haulers will not be accepted without prior approval. Food scrap trucks will be weighed and routed to the receiving building. After leaving the facility all trucks will be weighed and Republic Services will maintain an inventory of tonnage of all material by individual load.

The facility hours will be modified as appropriate to accommodate the unique delivery schedule of food scrap trucks where collection in off-hours is a necessity. Initially, the facility plans to accept loads from 5am until 5pm Monday through Friday and on weekends as demand dictates.

Trucks with liquid organics will be routed to the liquids receiving station. Liquid organics will consist of grease trap waste or other food related liquids. The receiving station will have a receiving tank with a rock trap and screen to protect the pumping system that will convey the material into holding tanks prior to pumping into the pre-digestion tank. Fats, oils and grease will be pumped into a dedicated tank that will have recirculation and heating elements to keep the material from solidifying. A second tank will have recirculation capability only.

Trucks with commercial food scrap material will be routed to one of two delivery bays in the receiving building. Trucks will back into the receiving bay, and the fast acting doors to the receiving building will remain closed other than to allow entrance and exit by the trucks. The receiving bay will have an air handling system that collects ambient air and routes it through an odor control system to maintain proper odor control. The air handling system design

complies with the City of Wilsonville odor control ordinance provisions, and odor control operations will be compliant with the City of Wilsonville conditions of site approval. Further discussion is included in the Odor Control section of this operating plan.

All food scrap loads will be dumped on the tipping floor for visual inspection. The material will be spread out on the tipping bay floor with a wheeled loader and inspected for content and potential contamination. Loads that appear to have greater than 25% contamination will be photo documented and then the whole load will be billed as either "wet waste" or "special assessment waste" in order to create the proper price incentive for compliant separation. These loads will be quickly separated as best as possible with reject material being pushed to a special reject bay in the receiving facility. Each day material from the reject bay will be weighed and recorded and then moved to the WRI transfer station for processing and offsite disposal.

Materials acceptable for processing will be pushed with a wheeled loader into the staging area of the receiving building. The staging area is sized to temporarily stage up to 250 tons or more of material. The staging area includes a push wall for containment and ease of loading of the material. Materials not acceptable for processing will be pushed to a reject staging area that will also have push walls. This reject material will be moved daily to the WRI transfer station.

Material from the staging area will be loaded into a fixed shredder by a tracked loader with a thumb bucket. The loader will be similar to the loader that WRI currently uses for loading at the transfer station, and this will be an advantage for spare parts inventory and ease of maintenance. The material will be loaded into a shredder in order to open bags and packaging, as well as to reduce material size for easier processing downstream. Material from the shredder is then fed into a screw conveyor for processing.

The trucks that deliver the food waste materials are washed with recycled water from the wastewater pretreatment system prior to leaving the building. The wash water is collected in floor drains, and this liquid is pumped to the pre-digestion tanks to maximize organics recovery. All of the truck unloading, material screening and pre-process screening is conducted in the tipping floor side of the building that is delineated with a dividing wall.

Once the material has been shredded, it is transferred in a screw conveyor to the processing side of the receiving building. The material is then conveyed through proprietary de-packaging equipment to separate the organic material from inert packaging to produce a homogenous slurry. Reject materials from the de-packaging stage will be loaded into bins and this material will be weighed and moved to the WRI facility each day.

The clean slurry from the separation building is then pumped to a pre-digestion tank for blending and equalization so that the anaerobic digestion process can be effectively operated to maximize operational performance. The slurry is held in this tank for 4-5 days and allows for continuous flow feeding to the anaerobic digesters. While the material is in this tank, pre-digestion hydrolysis and pre-acidification naturally occur and this serves to optimize the material for anaerobic digestion and enhanced biogas production.

Liquid food waste materials such as FOG and bakery waste will be accepted in the liquids receiving area where the material will be pumped from delivery trucks through a rock trap and screening sump prior to pumping the materials into the holding tanks. One holding tank will be dedicated to fats, oils and grease materials and will have special heating and mixing equipment that will insure that the materials do not separate and solidify. The other tank will store food waste liquids that do not require special heating, but it will include mixing equipment in order to maintain homogenous conditions inside the tank. The contents of the two tanks will be pumped to the pre-digestion tank as needed for processing. In this tank the liquid waste materials will be completely mixed with the food waste slurry.

The mixed slurry from the pre-digestion tank will be continuously pumped to two anaerobic digesters. The digesters will be Continuously Stirred Tank Reactors with a hydraulic retention time of 18-22 days. The slurry material will be pre-heated to 98 degrees Fahrenheit prior to introduction into the digesters, and the slurry in the digesters will be maintained at 98 degrees Fahrenheit to support methanogen growth and methane production. The digester mixing system is specially designed to completely mix the slurry and to prevent scum buildup at the liquid surface.

Biogas is generated from biological activity in the digesters collects in the headspace of each anaerobic digester. The headspace is constructed with specialized materials that resist corrosion and includes spray nozzles that will allow for the introduction of ferric chloride that can be introduced to remove hydrogen sulfides from the biogas. The biogas is removed from the headspace and stored in a low-pressure onsite storage sphere where it is then continuously pumped to energy utilization facilities, either renewable electricity or upgrading to transportation fuel.

Slurry material will be continuously withdrawn from the digesters to balance the continuous input. The slurry will be pumped to a post-digestion tank that will store the material prior to processing. The processing of the post digestion material will consist of dewatering through on-site centrifuges inside the receiving building. Dewatering of solids is a batch process that will be performed 5 days per week during normal operating hours. The resultant solids cake is an approximately 30% dry solid by weight. This material is rich in nitrogen and phosphorus. The dewatered solids will either be directly loaded into a transport truck in the receiving building or if necessary due to logistics placed into roll-off box containers that will be removed from the dewatering area to a transport staging area when full.

### **C. Description of Products Produced**

The solids cake will be transported offsite to a compost partner for final treatment and use as a fertilizer product for beneficial re-use. Our current compost partner is Pro-Gro Mixes, a local supplier of soil products with a facility located within ½ mile of the site. We have engaged in discussions with Pro-Gro Mixes on a concept of getting OMRI certification for the digestate cake and then mixing into a new compost line that Pro-Gro mixes is planning to develop. The AD facility will use a grass-based polymer to assist in OMRI certification, and Republic Services will assist in OMRI certification since it has experience in this process. The material will be properly composted to complete potential pathogen destruction. This partnership creates a tremendous opportunity to

minimize transportation impacts and have processing and beneficial re-use all within the Metro boundary.

A secondary option is to transport the material to Republic Services Pacific Regional Compost Facility. Republic has attained OMRI certification for material processed at this facility, and Republic has multiple off-take contracts for beneficial re-use of this compost material.

The liquids from centrifugal separation will be pumped to onsite wastewater pre-treatment system and then discharged to the City of Wilsonville wastewater collection and treatment system. The wastewater pretreatment system will operate in accordance with an Industrial Pretreatment Permit from the City of Wilsonville that will require monitoring, sampling and recordkeeping.

A seasonal alternative to discharge to the City of Wilsonville Wastewater Treatment system is direct land application of the liquids from separation. Agri-Tech, a wholly owned subsidiary of Republic Services with a 20-year operating history in the Willamette Valley, will be utilized to develop seasonal opportunities to beneficially re-use the nutrient-rich liquids. Agri-Tech owns and operates land application tanker trucks and would develop land application sties. Agri-Tech specializes in land application of liquids for agricultural applications.

The Facility's proposed use of biogas is as a fuel to generate renewable electricity, and in the future, as a transportation fuel as renewable natural gas. Two internal combustion engines will convert the biogas to mechanical energy that will create electricity. The electrical generating system will be operated in accordance with an interconnection agreement with Portland General Electric who has entered into an agreement to purchase the electricity. Peterson Power who maintains similar engines throughout the Portland Metro area will perform maintenance of the engines. The engines will operate under compliance of an Air Contaminant Discharge Permit issued by the Oregon Department of Environmental Quality.

Heat from the electrical generation units will be beneficially re-used to heat and maintain temperature of the slurry material in the digesters, provide heating of the FOG tank and provide space heating for the receiving building. There will be excess heat from the electrical generation units, and Republic Services and SORT Bioenergy will look for other beneficial uses of the heat, including potential drying of the solids cake material or use for space heating in the adjacent transfer station facilities.

If funding and feasibility allow, the Facility will also use the biogas for a transportation fuel for their onsite compressed natural gas fueling station that fuels their fleet of collection trucks. This use will require upgrading of the gas to natural gas quality. The collection trucks fuel during the evening and nighttime hours, and the ability to produce on-peak electricity and make use of the biogas as a transportation fuel in the evening and nighttime hours is the highest and best use of the biogas. SORT Bioenergy has incorporated the ability to use the biogas for transportation fuel in the evening hours during weekdays in the power purchase agreement with Portland General Electric.

## **E. Protection of Surface Water**

All material brought to the site for processing by anaerobic digestion will be either conveyed directly into completely enclosed tanks (i.e. FOG, other liquids) or processed within a completely enclosed receiving building. There will be no direct contact with soil or surface water with the raw material.

The floor of the receiving building will be concrete with a special acid-resistive coating to prevent any liquids from seeping through the concrete. The floor will be fully inspected prior to the initial receipt of material and periodic inspections of the floor will occur by the operating staff. Any cracks or areas of concern will be repaired immediately.

All of the tanks will be structurally designed and permitted and will be inspected as fully contained prior to receipt of material. Liquid levels will be monitored in all of the tanks and any unusual change in liquid levels will result in draining and inspection of a tank.

There is no leachate be generated by the Facility. Storm water from the facility will be conveyed to a storm water collection basin approved by the City of Wilsonville as part of the land-use approval (see attached Storm Water Report). The facility has been appropriately sized for the Facility. Sampling, monitoring and reporting of the storm water quality will be conducted in accordance with DEQ and City of Wilsonville monitoring requirements.

## **F. Protection of groundwater**

All material brought to the site for processing by anaerobic digestion will be either conveyed directly into completely enclosed tanks (i.e. FOG, other liquids) or processed within a completely enclosed receiving building. There will be no direct contact with soil or groundwater with the raw material.

The floor of the receiving building will be concrete with a special acid-resistive coating to prevent any liquids from seeping through the concrete. The floor will be fully inspected prior to the initial receipt of material and periodic inspections of the floor will occur by the operating staff. Any cracks or areas of concern will be repaired immediately.

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## **G. Odor control**

The main components in food scrap wastes are proteins, carbohydrates and fats, which contain various combinations of carbon, hydrogen, oxygen, nitrogen and sulfur. The decomposition of food materials is a well-known, natural process that begins as soon as plant and animal organisms cease to be living organisms. This decomposition is generally slow and steady.

A byproduct of decomposition of food scrap is odorous compounds and these odorous compounds are present in every collection container from restaurants and food service businesses throughout the City of Wilsonville and the Metro Region. Enclosed collection containers effectively contain these odorous compounds and prevent nuisance conditions.

Source separated food scrap waste from these containers will be collected and delivered to the SORT Bioenergy facility. The materials will be delivered to a fully enclosed receiving building. The building will have air-handling equipment that will maintain negative air pressure in the building when the receiving doors are closed. Prior to beginning operations each day, a vacuum measurement will be taken and logged by staff verifying that the integrity of the building air handling system is functioning properly. If the reading does not record a vacuum, then material will not be received and will be diverted to WRI.

The receiving bay doors will open and close for deliveries. Food scrap material is dumped on the delivery floor at the far end of the building away from the delivery doors. Air-handling ducting will focus air intake over the food scrap tipping floor area and this will prevent odorous compounds from exiting the building during deliveries. The food scrap material on the receiving bay tipping floor will be pre-processed by mechanical grinding, mixing and separation and the material will then be conveyed into fully enclosed tanks. No material will be left unprocessed at the end of each day and the tipping floor area will be washed down at the conclusion of each day.

Republic Services has been receiving this exact material at the WRI facility for the past decade without any odor complaints. The new receiving building will improve on the existing conditions by fully containing any odorous compounds associated with delivery of the food scrap material in a building with active air handling and foul air treatment.

A dividing wall within the receiving building separates the tipping floor from the de-packaging equipment. On the de-packaging side of the building, air-handling ducting focuses air intake around the equipment components. This side of the building is able to demonstrate negative air pressure just like the tipping floor side of the receiving building.

The foul air will be drawn from inside the receiving building via vacuum fan through the ducting to a biofilter for destruction and removal of odorous compounds. Microbes remove odors from the air stream with digestive enzymes that degrade odorous compounds. The technology provider for the biofilter system is Bohn Biofilter. Bohn Biofilter offers an industry leading performance guarantee and has hundreds of reference facility installations including the following in the Metro area:

Clean Water Services Durham Wastewater Treatment Facility,  
Clean Water Services Forest Grove Wastewater Treatment Facility  
Troutdale Water Pollution Control Facility

Camas Wastewater Treatment Facility  
Rainier Wastewater Treatment Facility

The filter medium, also called biofilter media, chosen here is a sand/soil blend that has the benefits of an inorganic substrate with greater surface area for greater gas adsorption. A water film rich in microorganisms that consume the odorous gas molecules covers the surface of the media. These microbe species are naturally occurring throughout western Oregon

The gas residence time for this specific application is 1.5 minutes empty bed residence time (EBRT). Each gas compound has a specific gas residence time required for complete oxidation/destruction. A typical residence time is 1 minute. The time chosen here extends that time to account for all odorous compounds the facility may experience from receiving a variety of materials in various states of decomposition.

The system design uses a foul air loading volume of 3 air exchanges per hour for the waste receiving side of the receiving building. For the processing side of the building, the foul air loading volume is 1 air exchange per hour because the material is primarily contained within processing equipment. This air-handling system achieves negative pressure to capture the odorous foul air. The system will have two fans to enable redundancy maintaining odor control.

The Bohn Biofilter requires operating only the foul air fan and the biofilter irrigation system to maintain proper moisture content. This ease-of-use results in high operational reliability.

Bohn Biofilter provides an operational guarantee for the performance of the odor control system. The system will insure that no odorous compounds will be present at the property line as measured by detectable hydrogen sulfide concentrations. The target performance is for no measurable hydrogen sulfide concentrations at the emission discharge point from the biofilter.

Compliance monitoring will be performed to ensure that the performance is being attained by the biofilter. For the first 6 months of operation, daily monitoring for hydrogen sulfide will be conducted with a handheld gas analyzer. The handheld gas analyzers are more reliable and more accurate than continual emission monitoring instrumentation. The results of the testing will be electronically logged and stored for use in monitoring reports and review by regulatory agencies. The monitoring will be completed both at the emission discharge point as well as at the most proximate property line. After 6 months of successful compliance monitoring, SORT Bioenergy will work with the City to request a reduction in the frequency of monitoring if appropriate.

The facility will also install a meteorological monitoring station. This data will also be logged and stored and available for use in monitoring reports and review by regulatory agencies.

The dimensions of the biofilter are approximately 110 feet long by 80 feet wide by 8 feet tall and are illustrated in the attached figures.

The solids from centrifugal separation will be deposited directly into a dump-truck, covered and taken offsite. If for some reason loading directly into a dump-truck is not available, the solids will be deposited into a roll-off box, covered and placed in the temporary storage area pending offsite transport. There will be no detectable odors from temporary storage of the solids.

## **H. Pathogen reduction**

The Facility will not produce any final end product that would require pathogen reduction for the solid cake produced from centrifugal separation of the slurry material from the digesters. The solid cake material will be transported offsite to a compost facility that will independently conduct pathogen reduction activities that will comply with all requirements for pathogen reductions.

The liquids from centrifugal separation of the slurry material from the digesters that goes to the wastewater pretreatment system and then is conveyed to the City of Wilsonville wastewater collection and treatment system does not need to achieve pathogen reduction. If there is seasonal opportunities to land apply the liquids, SORT will work with Agri-Tech to insure that all regulations are adhered to for direct land application of the liquid material.

## **I. Vector Attraction Management**

The Facility will minimize vector attraction by receiving all materials either directly into enclosed tanks (liquid organics) or into the fully enclosed receiving building (food scrap waste). All material within the receiving building will be processed within 24 hours of receipt and once processed the material will be conveyed into fully enclosed tanks and not accessible to vectors. The receiving building will have the tipping floor washed down at the end of the day. The buildings and grounds will be routinely inspected to insure cleanliness. A professional vector control contractor will be hired to provide vector control measures in addition to those listed above.

## **J. Closure**

If the facility is to discontinue operations, SORT Bioenergy will give at least 30 days notice of the intent to discontinue operations. All tanks (pre and post digestion tanks, anaerobic digesters, liquids receiving and wastewater pre-treatment tanks) will be drained of their contents and cleaned to remove all material. The supply piping will be disconnected and capped with blind flanges. The receiving building will be pressure washed and cleaned and the biofilter media material will be removed from the biofilter. All processed solids will be removed from site and all equipment (de-packaging equipment, pumps, centrifuges, internal combustion engines) will be locked out and tagged out of service. Final disposition of the equipment will be determined by either repurposing of the facility or offsite reuse of the equipment.

## **K. Post Closure**

The buildings and grounds will undergo a visual inspection to determine potential impacts to soil and groundwater. If the visual inspection reveals areas of concern, additional investigation will occur and action taken if necessary.

## **L. Monitoring and Recordkeeping**

All waste materials (liquids and food scraps) must enter the site through the Republic Services access and are routed across Republic Services scales for weighing and recording. Republic Services has procedures in place to insure that recordkeeping of all materials that enter and exit

the site are recorded and accounted for.

SORT Bioenergy will process all materials that are routed to the facility from the Republic Services scale house and will insure that all materials leaving the facility are weighed and recorded through the same scale house system. This includes all reject materials, de-packaged materials, and post digestion solids that are taken offsite for compost treatment and beneficial re-use. All liquids that are discharged to the sewer will be monitored for flow and water quality. The monitoring and recordkeeping described in this section will allow for a material balance for all materials.

The facility will have an onsite lab that will enable the monitoring of key operating parameters. Additional more detailed laboratory analyses, such as biomethane potential testing (BMPs), biomass quality and characteristics, anaerobic toxicity/inhibition testing, and anaerobic reactor biomass microscopic evaluations will be performed in a treatability and process development laboratory facility owned and operated by The Stover Group. This monitoring and testing approach will enable reliable, stable operational process control and associated treatment performance. An overall operating program evaluation/assessment will be performed and plant specific monitoring and operational process control programs will be implemented.

The following testing program will be performed, as a minimum, relative to analytical testing for the operational process control program for the anaerobic digestion system:

Waste Characteristics:

- Influent total COD testing daily
- Influent TS/TSS testing daily

Pre-Digestion Tank:

- Daily COD testing
- Daily TSS testing
- Daily TKN testing
- Daily Total Phosphorus testing

Anaerobic Digester testing:

- Daily soluble COD testing (each reactor)
- Daily TSS testing (each reactor)
- Daily TKN testing
- Daily Total Phosphorus testing
- Daily digester pH, VFAs, partial alkalinity, and total alkalinity testing (each reactor)
- Management and control of digester pH
- Biogas quantity and quality monitoring (each reactor)
- Daily biogas carbon dioxide monitoring (each reactor)
- Routine biomass inventory monitoring (each reactor)

Liquid Digestate Testing:

- Daily COD testing
- Daily TSS testing
- Daily TKN testing
- Daily Total Phosphorus testing

Dewatered Solids Cake:

- Daily % Solids testing
- Daily TKN testing

☐ Daily Total Phosphorus testing

This data will support the following:

- Optimization of plant operations
- Process loading evaluations and management over twenty-four (24) hours per day operations
- Optimization of operations for COD and TSS loads and biogas management control
- Optimization of the anaerobic digesters operation for performance and biomass and biogas control
- Optimization of biomass inventory growth and management
- Optimization of residuals handling, processing, and management operations
- Minimization of operations process upsets
- Maintenance of stable reliable operations process control program

SORT Bioenergy and Republic Services will record all complaints related to the overall operations of the entire campus. SORT Bioenergy will keep independent records of its own actions related to any complaints. This will include meteorological data and details of all actions taken to address complaints.

SORT Bioenergy will also record all process upset conditions and an violations of the Operations Plan. These records will be made available to DEQ, Metro and the City of Wilsonville upon request.

**M. Site Security**

SORT Bioenergy is located within Republic Services campus. The external perimeter of SORT Bioenergy's operation will be fenced and the Republic campus is fully enclosed behind a fence and gated. Employees, shift supervisors and the site-operations manager are constantly looking for people who are not authorized access to the campus.

**N. Parking**

Employees will park in front of the Receiving Building located on the south side of SORT Bioenergy's leased property boundary. Any visitors must park in the Republic Services visitor parking lot and check in with Republic Services who will contact SORT Bioenergy staff to accompany visitors to the facility.

**O. Noise Control**

Operations manager and shift supervisors proactively pursue sources of excessive noise generated on WRI's property for appropriate action to eliminate such noise. Complaints from the general public regarding noise are immediately examined by the operations manager and shift supervisors. Action to eliminate or significantly reduce noise is implemented, when appropriate, as soon as possible. WRI will report to the complainant the action taken by WRI to eliminate or significantly reduce noise.

## **P. Equipment**

SORT Bioenergy will conduct operations under an ongoing equipment preventive maintenance program. The program has the following objectives:

- Operational reliability
- Maximum safety for all employees
- Minimize any adverse impacts on the adjoining campus and neighbors

Manuals describing the operation, repair and maintenance of equipment used by SORT Bioenergy will be provided in SORT Bioenergy's "Maintenance Manual." Information in this manual will describe in detail the level of maintenance needed to achieve effective and efficient operating results. Repair procedures, such as pump maintenance, changing belts, seals, etc., are provided in the manual. The "Maintenance Manual" is updated whenever new maintenance procedures are developed based on operating experience.

## **Q. Maintenance Records**

Records of maintenance and repair service are maintained for warranty documentation and historical information for operational planning. SORT Bioenergy's contract operations entity, The Stover Group, will record and make available all of these service records.

## **R. Repair**

SORT Bioenergy's maintenance manager will assess the extent of any equipment repair effort required to restore equipment to productive use. Either a specialized contractor or the dealer from whom SORT Bioenergy purchased the equipment will perform equipment requiring repair beyond the capability of SORT Bioenergy's onsite maintenance department, or equipment under warranty. SORT Bioenergy's maintenance manager will coordinate with Republic Services to ensure that non-operating equipment and the needed repair time do not interrupt operations.

## Section 2 EMPLOYEE TRAINING

### A. GENERAL

SORT Bioenergy and its operating partner The Stover Group will provide uniform training programs to ensure all employees are instructed on employment policies and practices. Employees also receive training specific to the employee's assigned task(s).

Employees sign a form at the end of a training session acknowledging the employee "received instruction related to the employee's position and/or equipment the employee is expected to operate and that the employee understands all information presented by instructor." This form is retained in the employee's personnel file.

The training programs will provide information through a combination of communication methods: oral, printed and video. In addition, training materials and instruction for employees with English as a second language are provided in the employee's first language and, when necessary, interpreters are available at training sessions.

### B. NEW EMPLOYEE ORIENTATION AND SAFETY TRAINING

New employees are required to complete an orientation and safety training session prior to beginning work. Employees must sign a form acknowledging receipt of this information.

- Company Overview and Objectives
- Employee Handbook
- Policies and Procedures
- Sexual Harassment Awareness
- Drug and Alcohol Awareness
- Work Week and Pay Information
- Benefits
- Weapons Policy

Safety orientation – signed acknowledgement required for each:

- Safety Policies and Rules
  - Corporate Safety and Health Policy
  - District Safety and Health Policy
  - Operations Safety and Work Rules
  - Receipt of Personal Protective Equipment
  - Hazards in the Workplace
  - Employee Safety
- Specific OSHA Training Programs

- Lockout/Tagout Procedures and Policy
- Permit Required Confined Space
- Bloodborne Pathogens
- Personal Protective Equipment (PPE)
- Hazard Communications – “Employees Right To Know”
- Hearing Conservation
- Spill Prevention, Control and Countermeasures
- Proper Lifting Techniques
- Emergency Evacuation Procedures
- Hazardous Material Identification
- Portable Fire Extinguishers
- Material Safety Data Sheets (MSDS)

Facility Tour for Location Identification

- Compliance Safety Programs
- Alarm Pull Stations
- Evacuation Assembly Points
- Fire Extinguishers
- Emergency Eye Wash and Shower Stations
- First Aid Station
- Emergency Stop Buttons

**C. CONTINUING TRAINING**

SORT Bioenergy and its operating partner The Stover Group conducts continuous training programs designed to reinforce operational and safety polices and practices. These programs encompass OSHA and other regulatory requirements for compliance with employment and operating regulations.

Regular Operation and Safety Training – signed acknowledgement required for each

Periodic Hourly Employee Training

- Fire Prevention and Control
- Routine and Periodic-Unannounced Fire Drills
- Dust Mask Use
- Spotter and Sorter - OSHA 1910.120 40-hour certification required
- First Aid
- CPR

- Equipment Operators Specialized Training<sup>1</sup>
  - Front-end Loader Operator
  - Forklift Operator
  - Grapple Operator
  - Loader Operator
  - Shuttle/Yard Truck Operator
  - Skid Load Operator
  
- Annual Hourly Employee Training
  - Confined Space Training
  - Fire Extinguisher Training
  - First Responder Program
  - Spill Prevention, Control and Countermeasure
  - Lockout/Tagout
  - Personal protective Equipment
  - Hazardous Communication – “Right To Know”
  - Bloodborne Pathogen
  - Hearing Conservation
  - Material Safety Data Sheets (MSDS)

## Section 3

### SAFETY

#### A. General

SORT Bioenergy understands that a safe work environment is a significant value for to the company, its partners and the community. This value is continuously reinforced through integration of safe operating practices into every employee activity. There are two (2) central themes in our safety programs. First, employee safety is a team effort. Second, each employee has the ultimate responsibility for all successful accident prevention programs.

All employees are responsible for reporting unsafe conditions to their supervisors and refraining from unsafe acts. Employees are required to report every accident and injury to their supervisor.

#### B. Safety Program

SORT Bioenergy and its operating partner The Stover Group will prepare and continuously update a site specific "Safety Programs Manual." Information in this manual covers a variety of safety and compliance topics, offering standardized guidance.

- Hazard Communications
- Bloodborne Pathogens
- Confined Spaces
- Personnel Protective Equipment
- Lock Out/Tag Out
- Hearing Conservation
- Dust Mask Use

SORT Bioenergy and The Stover Group will establish a safety committee in accordance with OR-OSHA standards. The safety committee will meet monthly to review and investigate accidents, discuss safety issues raised by employees and follow-up on previous issues discussed by the committee members.

The safety committee also conducts and documents quarterly hazard inspections of the food waste receiving building and other on-site operations. This inspection is intended to identify any hazard that may exist and presentation of these findings, with recommendations, to the appropriate manager(s).

The chairperson of the safety committees maintains all meeting minutes and record of committee actions. These minutes are posted on the employee's bulletin board.

Employee safety training meetings are scheduled monthly. In addition, the operations manager and shift supervisors conduct informal “Tailgate Safety Meetings.” The tailgate meetings are called from time to time to review safety issues that may need immediate attention, plus allow for discussion of “Safety Alerts.”

SORT Bioenergy and The Stover Group will maintain records of employees attending training sessions. These records are maintained in the office and updated on a continuous basis by the supervisors. All required OR-OSHA documentation – Forms 801, 300 Log and 300A summary – are maintained and posted as required by OR-OSHA. HRIS data is updated as recordable employee workplace injuries and illnesses occur. The 300 log and 300A summaries can then be generated as needed.

### **C. Personal Protective Equipment**

All employees are required to wear clothing on-the-job to protect for injuries and lost-time accidents: full-length trousers; coveralls and nonskid-sole work boots.

In addition, SORT Bioenergy and The Stover Group will provide each employee all needed Personal Protective Equipment. This equipment generally consists of gloves, tyvek suits, disposal shoe coverlets, half-face purifying dust mask, hearing protection, safety glasses, hard hats and fluorescent safety vests.

All employees are required to wear Personal Protective Equipment if this equipment is required by the employee’s job description.

