STATUTORY AND REGULATORY RESPONSE

Interim Certification Application
Tailings Management Areas
Omya Inc., Verpol Plant
Florence, Vermont

1.0 INTRODUCTION

Omya is applying for Interim Certification for the Kane & Drake and Dolomite TMAs under the requirements of the VSWMRs and 10 V.S.A. §6605b in order to comply with the final requirement of a June 20, 2005 letter from Mr. Jeff Wennberg, Commissioner of the VTDEC, to Mr. James M. Reddy, President of Omya. In his letter, Mr. Wennberg stated that Omya may apply for certification under one of two statutes: (i) Interim Certification (10 V.S.A. §6605b); or (ii) Facility Certification (10 V.S.A. §6605). Commissioner Wennberg required Omya to submit an application for certification to VTDEC by August 15, 2005. While Omya plans to apply for Facility Certification, as described later in this application, Omya elected to submit an Interim Certification Application because an application containing all the requirements for variances or waivers necessary to address the regulatory requirements for Facility Certification could not be completed by August 15, 2005. In addition, Interim Certification will provide Omya the opportunity to operate the facility for a period necessary to complete research, planning, construction, installation, or operation of an approved facility or to close the existing facility.

According to 10 V.S.A. §6605b and §6-306(a) of the VSWMRs, Interim Certification may be issued to facilities that cannot otherwise be certified under the VSWMRs. As such, the Kane & Drake and Dolomite TMAs are excellent candidates for Interim Certification for the following reasons:

1. Continued operation of the TMAs is essential to the continued operation of the Verpol plant and hence the public benefits derived therefrom (see Section 2.0 of this document).

2. There is no present reasonable, alternative means for management of the tailings product (see Section 4.0 of this document).

3. Omya needs to operate the facility for a period of time necessary to complete research, planning, construction, installation, or operation of an approved facility or to close the existing facility (see Section 5.0 of this document);

4. The operation of the facility will not create an unreasonable risk to the public health nor be unreasonably destructive to the environment (see Section 7.0 of this document);

5. The operation of the facility is consistent with an approved plan for the area in which the facility is located and the state solid waste management plan (see Part A-7 of the Interim Certification Application); and

6. Omya meets the requirements established in 10 V.S.A. §6605(a)(1) and (2) (see Part A-9 of the Interim Certification Application);

7. The tailings product stored in the TMAs does not generate a leachate that is harmful to public health and safety or the environment, nor do the TMAs create nuisance conditions (see Section 7.0 of this document).

8. The TMAs do not comply with the following requirements of the VSWMRs, and would require variances or waivers in order to achieve Facility Certification:

    a. Minimum isolation distance to high seasonal water table (§6-503(b)(4));
    b. Minimum isolation distance to bedrock (§6-503(b)(4));
    c. Minimum isolation distance to property line (§6-503(b)(4));
    d. Liner and leachate collection systems (§6-606(b)(2)(A), (E), (F));
    e. Final cover cross-sections (§6-606(b)(2)(M)); and
    f. Maximum slope inclination (§6-606(b)(2)(N)).

With respect to compliance of the TMAs with the requirements of the VSWMRs, the following is noted:

1. The Dolomite TMA was established after 1987, and hence liner and leachate collection systems are required under VSWMR §6-606(b)(2)(A) for that TMA.

2. The TMAs are situated in former rock quarries, and hence the tailings product is in contact with both bedrock and groundwater (§6-503(b)(4)).

3. The southwest corner of the Kane & Drake TMA is approximately 120 feet from the property line, while §6-503(b)(4) requires a 300-foot separation distance.

4. The inclination of the tailings product in the TMAs is as steep as 2.5H:1V, while §6-606(2)(N) requires a maximum inclination of 3H:1V.

5. The proposed final cover of the TMAs includes one material, tailings product, instead of two earthen materials, serving as both the low-permeability and vegetative support layers required by §6-606(b)(2)(M).

10 V.S.A. § 6605b(b) and § 6-306 of the VSWMRs identify certain specific requirements and findings the secretary must make in order grant Interim Certification. The statutory and regulatory requirements are phrased with different terminology, but generally require the submission of essentially the same information to enable the secretary to determine the following, each of which shall be addressed in the following sections:

1. The operation of the solid waste management facility is necessary and will result in public benefit, see Section 2.0 of this document.

2. Based on an assessment of currently available methods to manage the wastes stored, treated, or disposed at the facility, there is no present, reasonable, alternative means for waste disposal, see Section 4.0 of this document.

3. Omya needs to operate the facility for a period of time necessary to complete research, planning, construction, installation or operation of an approved facility or to close the existing facility and it proposes a schedule to complete activities resulting in proper closure or full certification of the facility, see Section 5.0 of this document.

4. The operation of the facility will not create an unreasonable risk to the public health nor be unreasonably destructive to the environment, as demonstrated by data from sampling groundwater and surface water in and around the facility, the results of computational modeling of the groundwater in the area of the TMAs, monitoring plans for groundwater, surface water, and drinking water including summaries of existing available data (see Section 7.0 of this document).

5. The operation of the facility is consistent with an approved plan for the area in which the facility is located or the state solid waste management plan, evidence that the construction, alteration, and continued operation of the facility or continuation of the activity is consistent with regional solid waste plans, if any, and the state waste management plan, see Part A-7 of the Interim Certification Application.

6. Omya meets the requirements established in section 6605f(a)(1) and (2) of 10 V.S.A., see Part A-9 of the Interim Certification Application.

The remainder of this section addresses each of the above requirements.

2.0 NECESSITY AND PUBLIC BENEFITS

The TMAs are a necessary component of the operation of the Verpol plant. Without the ability to remove impurities from its calcium carbonate ore, Omya would not be able to supply the market with its high-grade products that are used beneficially to produce a variety of end consumer goods. Without a designated tailings product management area, operations at the Verpol plant would be severely disrupted and could not continue, not to mention the adverse impacts on Omya's ability to operate in a highly competitive marketplace. (See Section 4.0 for the discussion relative to alternative management). In addition, by managing the tailings product on-site, Omya has been able to retain control of its own material in anticipation of the ability to reclaim the substantial content of calcium carbonate or its use in other applications, all in accordance with the legislative encouragement of innovation, individual responsibility, reuse, and recycling and in an effort not to foreclose the future use of the tailings product. Since Omya began production at the Verpol plant in 1979, it has continually improved its ore management and flotation process. These improvements have reduced the generation rate of tailings product, and reduced the relative amount of process water and energy used at the Plant. Understanding that the available space in the on-site TMAs is limited, Omya is pursuing other management alternatives for the tailings product, including, but not limited to, selling the tailings product to other users and possible disposal or storage at an approved, economically feasible off-site Omya

facility. Until a feasible alternate management method is identified and implemented, Omya must continue to use the existing TMAs as they were originally permitted under Act 250.

Currently, one of the most technologically feasible alternate management methods (albeit economically unreasonable) would be to transport the tailings product long distances to off-site certified landfill facilities. However, several of the key public benefits of Omya's continued on-site tailings management relate to the avoidance of this alternate method. First, shipping the tailings product likely would result in significant new aesthetic impacts to Vermonters from the increased trucking activity associated with hauling to an off-site landfill. Second, there would be significant new energy/environmental impacts from the increased fuel consumed by those trucks, along with corresponding additional air and noise pollution. Third, and perhaps most significant, very large volumes of valuable off-site certified landfill space, that already is in short supply, would be consumed annually and occupied by a material that is capable of being managed safely on-site by its own generator. Since the passage of Act 78 in 1987, no new large-capacity landfill has been sited at a previously unused site in Vermont. Currently, there are only two large-capacity, municipal solid waste (MSW) landfills in operation, each of which is between about 50 and 125 miles from the Verpol plant requiring at least 4 hours per round trip. Each of these facilities has limited annual capacity to receive waste (e.g., Waste USA Coventry - 240,000 tons per year; WSI Mooretown: 125,000 tons per year[1]). When these existing facilities are full,[2] and either no more expansion space is available or their owners choose not to develop new capacity, it most likely will be necessary to transport even more of Vermont's MSW to further-distant locations, probably out-of-state.[3] By so doing, Vermont will impose even more of its solid waste burden on other states, while the cost of transportation and disposal will increase substantially, leading to adverse economic impacts on Vermonters as well, possibly, as more illegal and unhealthy dumps and burn barrels utilized in an effort to avoid proper, but costly, disposal and thereby imposing further costs on Vermont and its citizens.[4]

In addition to the tonnage limits, certified facilities may be limited in the types of waste that may be accepted for disposal at the facility. Facilities may also be limited in the geographic areas from which they receive waste. Thus, even if physical capacity may exist to receive the tailings product from Omya, regulatory capacity may be lacking.

Another potential public benefit of the operation of the TMAs is the avoidance of co-mingling Omya's tailings product with municipal solid waste at an off-site facility. Such a practice would preclude any future possibility of recovery or recycling of the calcium carbonate content as

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[1] Vermont Solid Waste Management Plan, effective November 1, 2001, Table 2.1, Section 2:page 22.

[2] "At current rates of fill, the two permitted lined landfills will reach capacity in about seven years - or sooner if all of Vermont's waste (including municipal solid waste, construction/demolition debris, woodwaste, biosolids and other wastes) were disposed of instate." Vermont Solid Waste Management Plan, eff. Nov. 1, 2001, at Section 1, 16-17.

[3] "Today, there are only three small unlined municipal landfills (each limited to accepting less than 1000 tons of solid waste per year), and one privately owned construction and demolition waste landfill. The remainder of the waste disposed of in Vermont is delivered to two privately owned and operated lined landfills in Moretown and Coventry. Vermont also exports waste to other states for disposal; in 1999, 24% of Vermont municipal solid waste was disposed of out-of-state." Vermont Solid Waste Management Plan, eff. Nov. 1, 2001, at I. 4.

[4] See, e.g., Vermont Solid Waste Management Plan, eff. Nov. 1, 2001, at Section 1, 20-21.

advances are made in mineral separation technology or for re-use as tailings product markets ultimately are developed. In essence, a potentially valuable mineral resource will be forever lost, much the way old landfills contain large percentages of now-recyclable materials. In the case of the recyclable materials, their value and the benefits of recycling were not foreseen years ago, but society ultimately recognized the waste of resources and moved forward with new legal and regulatory schemes to reduce the stream of waste. In contrast, knowingly contaminating the tailings product by co-mingling it with other waste streams would be contrary to the purposes behind Vermont's waste control legislation, which was intended to help avoid "the depletion of the world's resources by burning and burying resources as waste." (10 V.S.A. § 6601(a).)

There are numerous other public benefits derived directly and indirectly from the continuation of Omya's Vermont operations:

- Omya has approximately 300 employees in Vermont.

- Omya engages another 150 people, employees of subcontractors, who rely exclusively on Omya every day in Vermont for their livelihood.

- The average wage of an Omya employee in 2002 was more than $50,000, including benefits. The Vermont Job Gap Study, a report by the Peace and Justice Center, determined that a two-parent family with one wage earner and two children needed $31,684 as a livable wage in rural Vermont.

- Omya provides a comprehensive benefit package to its employees that includes low-cost health, dental, life, and disability insurances, educational tuition reimbursement, profit sharing, and retirement benefits. Omya pays over $6 million in benefits, including nearly $3 million in medical benefits for its employees.

- Omya pays over $2.7 million annually in property taxes to 25 Vermont towns, including approximately $1.4 million to the Town of Pittsford.

- Omya annually spends in excess of $50 million in Vermont on goods and services.

- The capital investment in Vermont is over $500 million.

- The average length of employment for Omya employees is ten years.

- Omya brings new money into the state from the sale of calcium carbonate, which is almost exclusively to out-of-state customers.[5] The economic multiplier typically is a factor of five in a basic industry that exports product from Vermont.

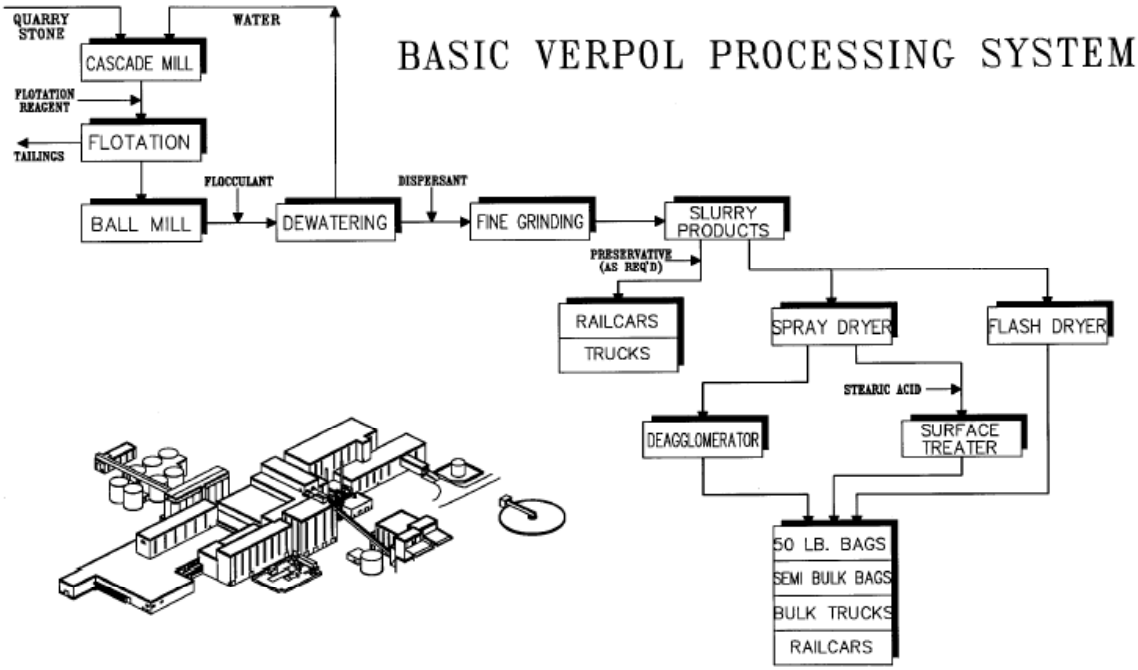
[5] The consumer goods produced from Omya's calcium carbonate product are sold throughout the world, including Vermont. Vermont residents benefit from the availability of those end use products even though they are manufactured in other locales.

- Omya is the largest user of the railroads in Vermont, and without Omya's shipments, freight railroad service in Vermont likely no longer would be viable.

3.0 ASSESSMENT OF CURRENTLY AVAILABLE METHODS

3.1 Calcium Carbonate Production

Omya's calcium carbonate production process, in its most general sense, involves the fine grinding of marble to desired particle sizes. The production process separates the calcium carbonate from the naturally occurring, non-calcium carbonate minerals using an industry standard flotation process. The flotation process mixes the ground ore with water and a flotation reagent (currently Custamine 51D[6]). The flotation reagent is a surfactant (a soap-like compound) that attracts non-calcium carbonate minerals (e.g., mica, quartz, feldspar, etc.) and allows them to float to the surface where they are skimmed off and removed. The materials that are removed are referred to as tailings product.



As shown in the schematic above, quarried ore is delivered to the Verpol plant by truck where it is processed in the following general fashion:

1. The ore is coarsely ground in the Cascade Mill;

2. The ground ore is subjected to a flotation process to remove natural mineral impurities; and

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[6] Custamine 51D Floatation Reagent consists of 91 percent tall oil hydroxyethyl imidazoline (TOHI), 7.5 percent amine acetate, and 1.5 percent aminoethyl-ethanolamine (AEEA).

3. The material is ground further in fine-grinding mills to the desired final particle size to produce the finished product.

The finished product is shipped off-site in rail cars and trucks as a water-based slurry and as a dry powder, in bulk or bags.

Omya's tailings product generally consists of approximately 99.6 percent mineral matter with a *de minimis* amount (approximately 0.4 percent) of the flotation reagent firmly bound to the non-calcium carbonate mineral grains. According to tests performed by Golder Associates, Inc. (Golder) (see Attachment 1 of this document), the particle size distribution of the tailings product ranges from fine sand to silt to clay size particles.

3.2 Flotation Process

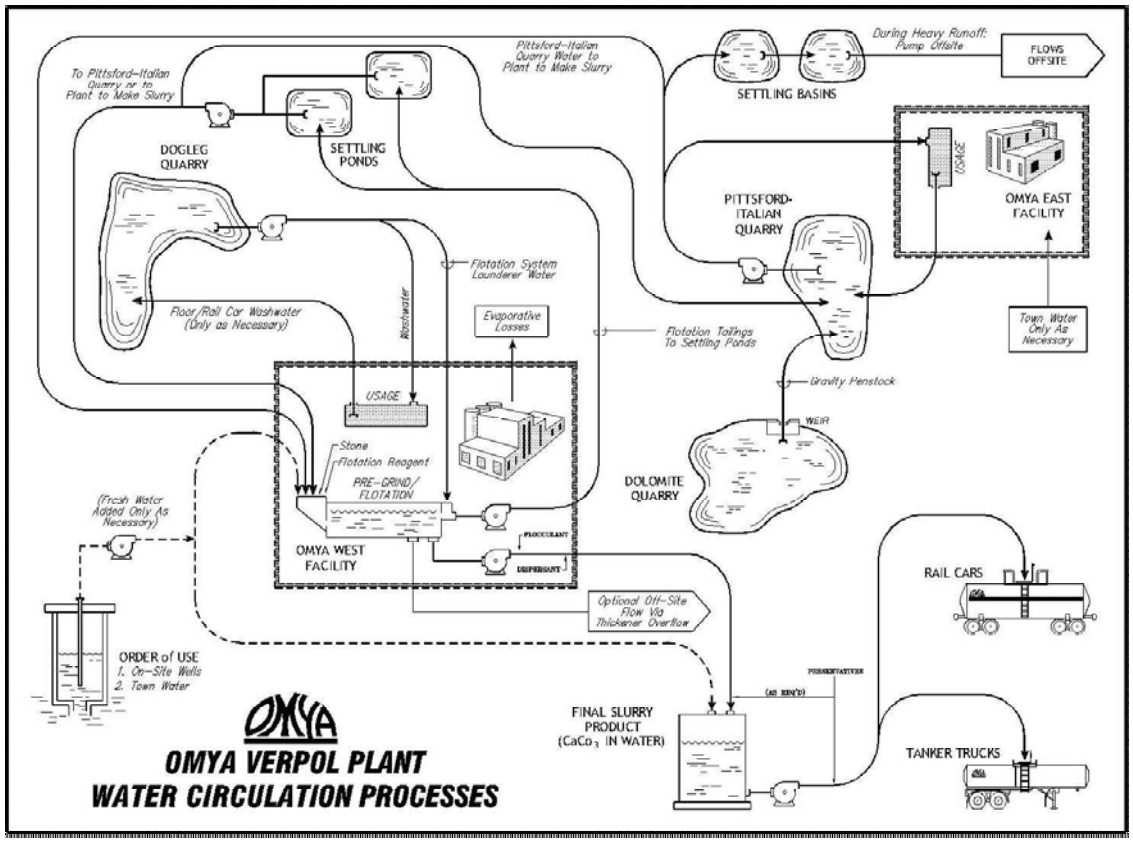
In the flotation process, the target mineral impurities are floated out of a mixture of water and coarsely ground ore by means of a flotation reagent and air bubbles. The typical ore particle at this stage of the process is silt sized at 16 to 100 microns, with 72 percent smaller than 45 microns. The flotation reagent binds to the targeted mineral impurities and creates a hydrophobic (i.e., water repellant) surface or layer so that the targeted mineral impurities will separate from the mixture of water and calcium carbonate. Because the flotation reagent is bound to the targeted mineral impurities, the froth containing the mineral impurities and the flotation reagent is skimmed from the top of water/calcium carbonate mixture and constitute the bulk of the tailings product, with other portions of the tailings product represented by residue from process-related activities.

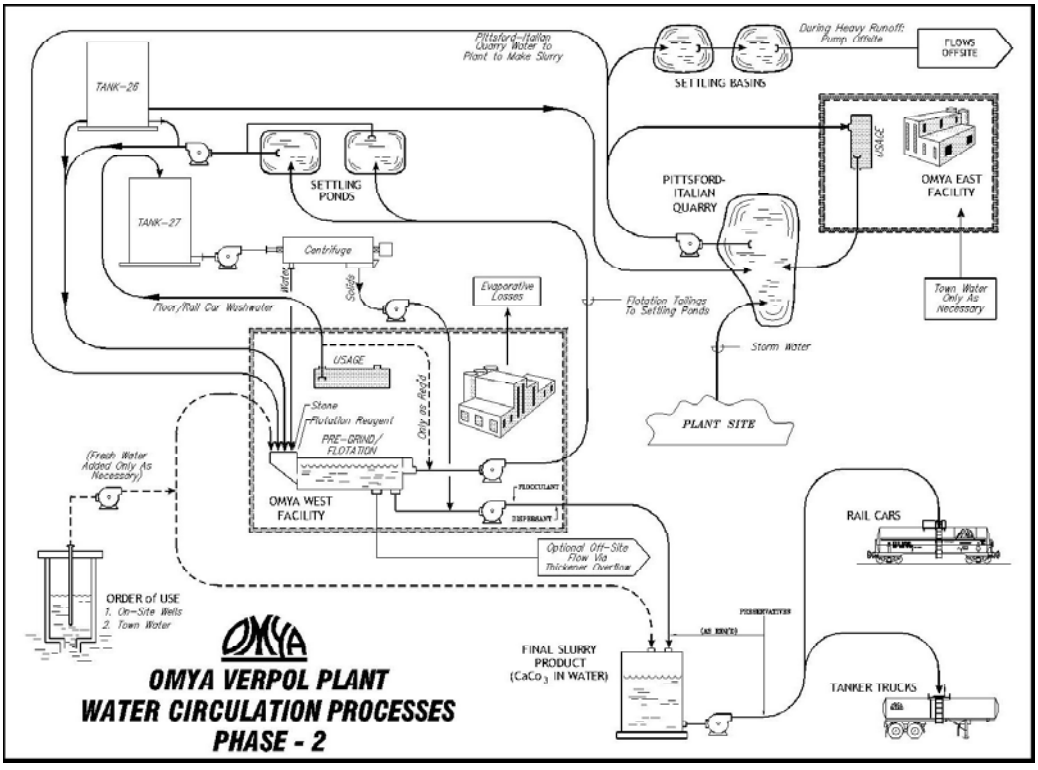
3.3 Dewatering

3.3.1 Past Practice

Because of the high water content of the tailings product generated during the flotation process, the material has been partially dewatered in settling basins (or cells) prior to its deposition in the inactive quarries (i.e., TMAs), in accordance with the Verpol plant's Act 250 and discharge permits. As shown in the following schematic, the tailings product has been pumped to one of two settling cells where the decant would be collected, recirculated, and reused in the Plant as part of the production process. Water used in floor and railcar washing also typically was sent to the Loveland (aka Dogleg) Quarry, and was since 1979 until recently. The decant water was added to the flotation water as necessary to maintain water balance. The dewatered tailings product in the two settling ponds and in the Loveland Quarry has been periodically excavated and transferred to the Kane & Drake and Dolomite TMAs.

******REVISED IN RESPONSE TO VTDEC COMMENTS DATED APRIL 18, 2006******





3.3.2 Current Practice

Reducing the amount of tailings product generated during the production process has been part of Omya's continuous environmental improvement efforts at the Verpol plant. To that end, Omya has implemented improvements to its water circulation process as shown in the "Phase-2" schematic above. The major change to the water circulation process was that the water used in floor and railcar washing has been recycled back into the process through the Tank 27 system, which reclaims solids from the water prior to re-introduction to the production process.

3.3.3 Future Practice

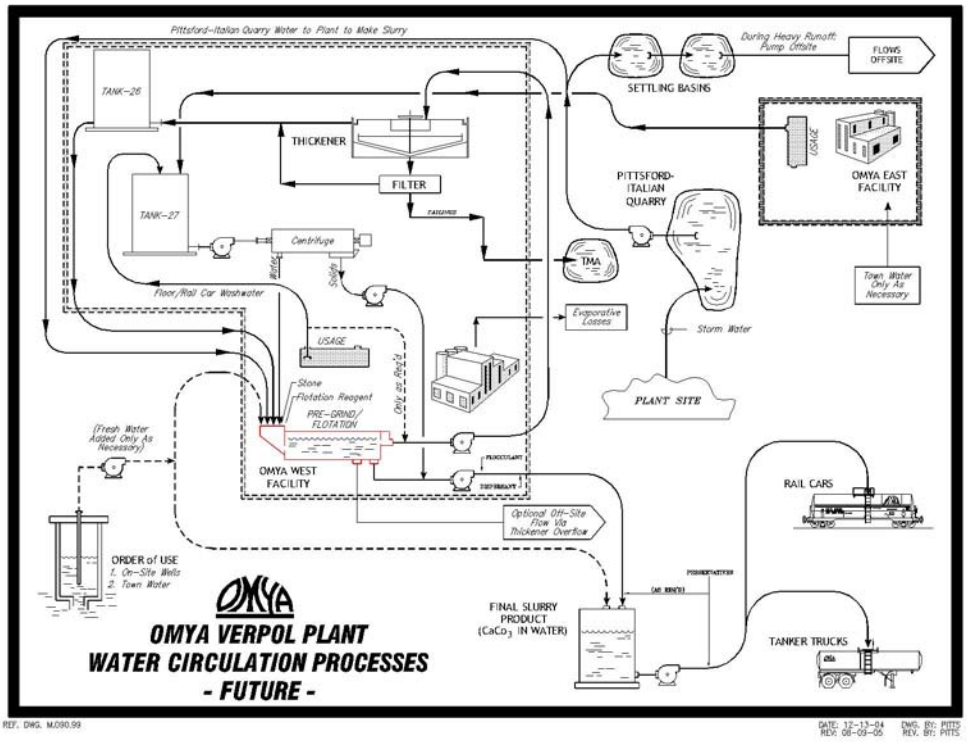
Going forward, Omya intends to complete engineering, seek additional permits (e.g., Act 250), to acquire the necessary equipment, construct, and institute the use and application of a dewatering facility, which will have the following benefits:

- Terminating the use of existing settling cells for initial dewatering of the tailings product by using an engineered system of process equipment and tanks;
- Eliminating the need for final dewatering in the Kane & Drake TMA;
- Reducing the volume of water transferred to the TMAs; and
- Creating a paste that exhibits a low hydraulic conductivity, allows for more efficient placement in the TMAs, and improves market opportunities for the tailings product.

The proposed process improvements for the Verpol plant are shown in the schematic labeled "Future." In the future, Omya proposes to implement paste technology (see Attachment 1 of this document) by installing a thickener to decant the tailings product as well as a pressure filter in a building located near the proposed thickener to further dewater the material. If necessary, the material from the filter can then be mixed with amendments (e.g., bentonite) to enhance product handling and characteristics and transferred to the TMAs.

3.4 Beneficial Use of Tailings Product

Omya is working with the United States Environmental Protection Agency and other entities to investigate potential markets for the tailings product, including its use as a neutralizing medium for passive treatment of acidic mine soils and stormwater runoff, and landfill final cover material. While economically viable markets for the tailings product are being sought, and while the technology to recapture and reduce the calcium carbonate content of the tailings product continues to be developed, the tailings product is being managed in the Verpol plant TMAs. Once markets for the tailings product are developed, the material would be processed for delivery to Omya's customers. It is noted that demand for the tailings product could vary seasonally. Therefore, it may be necessary to place tailings product in the TMAs during periods of low sales.



4.0 ASSESSMENT OF REASONABLE ALTERNATIVES

As previously noted, the tailings product currently is managed in former quarries located on-site at the Verpol plant as approved under Act 250 permits. The current management of the tailings product allows Omya to maintain control over the material from generation through placement in the TMAs. Omya's management of the tailings product, which is described in the Operations Plan (see Part E to the Interim Certification Application), is considered to be the most reasonable and practical means for the reasons presented below.

Because the tailings product is approximately 99.6 percent ground rock, disposal alternatives typical for MSW (e.g., incineration and composting) are not applicable. Therefore, on-site management or off-site disposal in a certified solid waste landfill are the most practical alternatives. Of these two alternatives, on-site management is considered the only reasonable and practical means for managing the tailings product due to the volume of tailings product generated each year, the haul distance to a certified landfill, and the overall cost of off-site disposal.

As described in the Operations Plan, tailings product slurry is generated throughout the calcium carbonate production process. The slurry is dewatered so that the material can be mechanically moved to the TMAs. Dewatering is a time consuming process that when completed requires the relocation of about 150,000 tons or 110,000 cubic yards of tailings product generated each year. The logistics of relocating such a large volume of material over relatively long distances, as

would be required for off-site disposal at a certified solid waste landfill, creates several undesirable conditions as noted below.

1. Hauling approximately 110,000 cubic yards of tailings using highway-rated haul trucks capable of hauling 30 cubic yards per load would require approximately 3,700 truck trips per year. The result of off-site hauling would significantly increase vehicular traffic, which would increase air pollution, the potential for automotive-related accidents, wear and tear on highways, and noise.

2. According to the "2003 Solid Waste Diversion and Disposal Annual Report" available at http://www.anr.state.vt.us/dec/wastediv/solid/pubs/2003diversiondisposalreport.xls, the State of Vermont generated approximately 511,000 tons of solid waste in 2003. Of this volume, approximately 396,000 tons was landfilled in state and approximately 115,000 tons was disposed outside of Vermont. Considering Omya generates approximately 150,000 tons of tailings product annually, Omya would increase the State's solid waste disposal capacity need by about 29 percent, and the in-state landfill fill rate by about 38 percent. Furthermore, the certified Vermont landfills accepted approximately 11,500 tons of contaminated soil and foundry sand for use as cover soil. The volume of tailings product is about 13 times this volume, and could far exceed practical use at the landfills. This would significantly reduce the effective life of permitted capacity in Vermont, which is needed for disposal of the remainder of the solid waste stream produced in Vermont, and would drive up the cost of disposal for Vermonters.

3. Certified landfills typically have restrictions relative to acceptance rates (i.e., tons or cubic yards per day, month and/or year). Therefore, without approved modifications to increase the waste acceptance rate, the tailings product would displace disposal of municipal solid waste and other industrial solid wastes. Note that in some jurisdictions, permitting solid waste facilities can be a time-consuming and difficult process.

In addition to the above, disposal of tailings product in a landfill would eliminate any practical means for Omya to recover the tailings product for other productive uses.

5.0 SCHEDULE

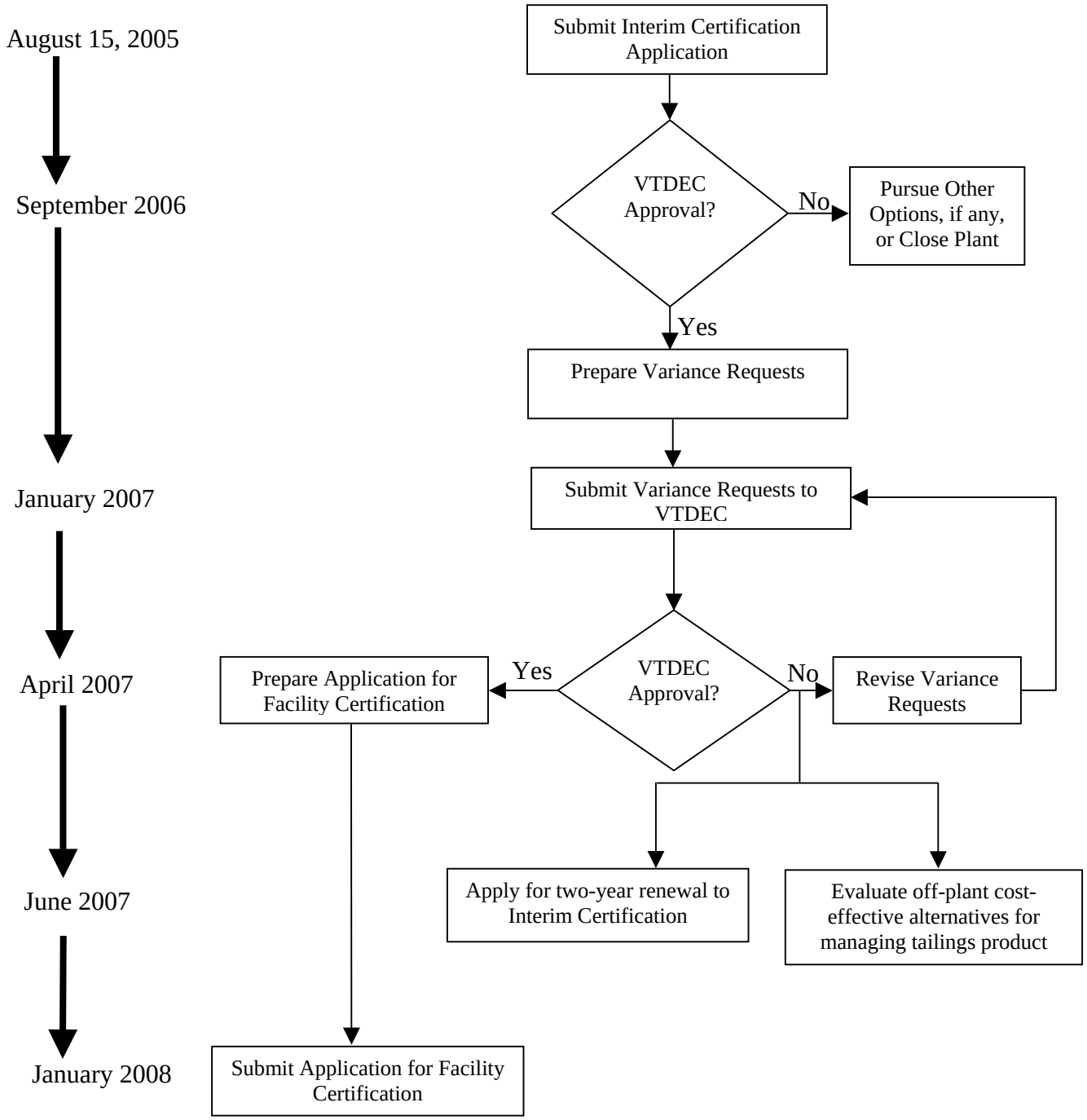
As previously noted, management of the tailings product in the TMAs is necessary for the continued operation of the Verpol plant, and Omya is concurrently working to: (i) comply with VTDEC regulations for certification; and (ii) find markets for the tailings product. Therefore, in consideration of the above and the need to appropriately certify the TMAs, Omya intends to pursue the following objectives during the term of the Interim Certification:

1. Apply for and obtain Facility Certification for the remaining capacity in the Kane & Drake, Dolomite, and Loveland TMAs or, in the alternative and if those facilities prove not to be suitable, at other locations within Vermont or elsewhere; and

2. Successfully market the tailings product.

During the initial two-year term of an Interim Certification, Omya intends to pursue Facility Certification of the TMAs under the available regulatory authority. The proposed strategy for pursuing Facility Certification is presented in the following flow chart and timeline.

FACILITY CERTIFICATION APPLICATION FLOW CHART AND TIMELINE
Tailings Management Areas
Omya Inc. Verpol Plant, Florence, Vermont



As noted in Section 1.0, the TMAs do not comply with several of the requirements of the VSWMRs. Accordingly, during the Interim Certification period, and Omya will prepare and submit variance requests pursuant to 10 V.S.A. § 6613 for the following siting and design issues:

a. Minimum isolation distance to high seasonal water table (§6-503(b)(4));
b. Minimum isolation distance to bedrock (§6-503(b)(4));
c. Minimum isolation distance to property line (§6-503(b)(4));
d. Liner and leachate collection systems (§6-606(b)(2)(A), (E), (F));
e. Final cover cross-sections (§6-606(b)(2)(M)); and
f. Maximum slope inclination (§6-606(b)(2)(N)).

The bases upon which the variance requests would be based are described throughout the various parts of this Interim Certification Application as same relate or refer to the siting and design issues listed above. Omya proposes to meet with representative of VTDEC prior to submitting the variance requests in order to facilitate and expedite the review process.

Assuming the variance requests are approved by VTDEC, Omya then would submit an application for Facility Certification.

In addition, Omya currently is evaluating several potential uses for the tailings product. However, research and testing is required before a product can be marketed. Such activities require time properly to understand market requirements, develop reasonable and appropriate test programs, evaluate the data, make necessary process changes, and develop end markets.

6.0 MONITORING

The proposed monitoring plan for the TMAs is presented as Part C-2 to the Interim Certification Application. A summary of the existing monitoring data associated with the TMAs is presented in Section 3.0 of the Facility Management Plan (see Part B of the Interim Certification Application).

7.0 RISK EVALUATION

Based on the information presented in the Site Characterization Report (see Part C-1 of the Interim Certification Application) and the Numerical Groundwater Fate and Transport Modeling Report, the operation of the Verpol plant TMAs, since 1979, have not created and will not create an unreasonable risk to the public health, nor have they been or will they be unreasonably destructive to the environment. As presented in the Site Characterization Report, the Verpol plant site, the TMAs, and the tailings product have been the subject of numerous studies and investigations. The results of the studies and investigations indicate that the flotation reagent, the principal chemical constituent of the tailings product, is organic, degradable, and adsorbs to geologic materials. Analytical evaluations of groundwater and surface water downgradient of the TMAs have provided data indicating that the water quality is in compliance with Vermont's Groundwater Enforcement and Water Quality Standards, respectively. Therefore, there are no known adverse impacts to public health or the environment associated with the operation of the TMAs since 1979. In addition, groundwater modeling performed to assess the environmental

fate of the various constituents of interest indicates that the TMAs will not result in exceedances of groundwater quality standards at the Design Management Zone Boundary.