Amendments to the Site Certification Application for the Indiantown Cogeneration Facility

Prepared for:
Indiantown Cogeneration, L.P.
P.O. Box 1799
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December 1999

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As-Built Site Plan

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1.0 INTRODUCTION

Indiantown Cogeneration, L.P. (ICLP) is the owner and operator of the Indiantown Cogeneration Facility (the Facility) located at 19140 Southwest Warfield Blvd., in Indiantown Florida. The construction and operation of the Facility was authorized in a Site Certification which was issued on February 6, 1992 and then modified by orders issued in July, 1992 and March, 1995. The 1992 and 1995 modifications addressed several changes that were identified as the Facility's conceptual design evolved into a more detailed design prior to construction.

Now that operating experience has been gained with the Facility, several additional changes to the site certification application (SCA) have been identified. Changes have been identified which will allow the Facility to reduce its environmental impacts and more readily comply with its permit conditions. These changes also are necessary to ensure that the Facility's application accurately describes the Facility in its as-built condition. The proposed amendments will not require changes to the Facility's Conditions of Certification, and do not have substantial environmental impacts. All of these proposed amendments are described in detail in the subsequent sections and appendices of this document.

The SCA amendments requested in this filing are in addition to certain modifications to the Conditions of Certification, which are being submitted in a separate document.

2.0 SCA AMENDMENTS

2.1 Additional Steam Use by Steam Host

ICLP and Caulkins Citrus have identified a new use of the Facility's steam at the Caulkins facility. Specifically, Caulkins Citrus plans to use a chilled water plant to provide cooling to one or more different existing processes at their facility.

The proposed chilled water plant would provide cold water through a steam absorption system. For the purposes of this amendment, the chilled water plant and all related equipment will be located on Caulkins' property. ICLP will provide steam to Caulkins for use in the chilled water plant through the Facility's existing equipment. No new equipment will be placed on ICLP property, and no new operations will occur at ICLP. There will not be any new adverse environmental impacts associated with this SCA amendment. Although there will be an increase in the use of steam, there will not be any increase in the use of water at the Facility beyond permitted amounts. In the proposed modifications to the ICLP Site Certificate, which are being submitted separately, ICLP seeks authorization to locate the chilled water plant on ICLP's property. If ICLP receives approval for this project and the modification, the chilled water plant will be relocated from Caulkins property onto the Facility site.

In summary, water and a specialized salt (lithium bromide) are used in a closed-loop system that uses steam as the energy source to create chilled water. That chilled water is supplied to Caulkins Citrus operating equipment through a second closed-loop system.

ICLP proposes to increase the use of steam for chilled water production at Caulkins, thereby increasing the benefits of cogeneration at ICLP. As demonstrated in the original certification of the Facility, cogeneration is a highly efficient means of creating more than one kind of energy from a single fuel source. The Facility currently burns coal to produce steam that is used both for producing electricity and for process needs at Caulkins (displacing the use of Caulkins boilers). Increased use of steam generated by ICLP improves upon the existing benefit by further using the energy releases by the combustion in the Facility's boiler. ICLP is not proposing any increase in steam generating capacity; the proposed project will make use of available capacity.

2.2 Water Treatment System Operating Flexibility

The ICLP Facility uses water from Taylor Creek/Nubbin Slough as its primary water source. This is a low-quality water resource, because it drains agricultural areas and carries a high nutrient load. Also, ICLP operates a zero-discharge facility, which means that all process water is re-used through the water treatment system. ICLP is seeking to document its flexible approach to water treatment system operations, as described herein.

Operating a zero discharge system using a low quality primary water source requires a great deal of operating flexibility, as well as a shift in outlook from normal water treatment system operation. In operation of a zero-discharge system, each water stream is viewed as a resource. To utilize every available water resource, system operators must be free to choose from a set of tools: treatment equipment, treatment chemicals, and storage locations. Flows are redirected, water streams are combined, and equipment and chemicals are used as needed to use the water resources available.

The original site certification application documented the initial water treatment system design and its expected operation. Through construction, startup, and debugging, changes were made to handle the actual quality found for the water resources, as well as the plant's actual water quality needs. Changes continue to be made to the system to respond to changes in incoming water quality, and changes to water quality needs for ICLP operations. Changes are also made as part of a process of continuous system improvement.

2.2.1 Disinfection

The water taken from Taylor Creek/Nubbin Slough is so poor that an aggressive program of disinfection is needed to ensure the quality of the water used in the cooling tower. No specific treatment program for cooling water was specified at the time of the Site Certification, but ICLP has taken several steps to control algae growth in the cooling water pond and recirculated water systems.

Steps that can be used by ICLP to control algae growth include:

- Use of sodium hypochlorite
- Use of chlorine dioxide, generated onsite
- Use of chlorine gas (currently discontinued)
- Use of ozonation or other oxidation systems (possible future use)

A temporary chlorine gas system initially was used at the Facility. ICLP has eliminated the use of chlorine gas and experimented with various systems. ICLP has found that a system utilizing chlorine dioxide (ClO_2) injection into the water storage pond provides sufficient reactivity and contact time to effectively disinfect the raw water feed to the plant.

As an interim measure, ICLP is using sodium hypochlorite and temporary chlorine dioxide generators while ICLP installs permanent chorine dioxide generators. The chlorine dioxide generators utilize a mixture of sulfuric acid and Purate (sodium chlorate and hydrogen peroxide mixture) to generate the chlorine dioxide for water treatment. ICLP plans to permanently augment the sodium hypochlorite water treatment system utilized at the cooling water storage pond, plant intake structure, the gravity filters, and the evaporator feed with chlorine dioxide generators.

ICLP will continue to use water treatment chemicals, in particular sodium hypochlorite, in a targeted, problem-focused approach to maintaining acceptable water quality. Disinfection, pH adjustment, and other water chemistry adjustments will be made by introducing water treatment chemicals at the point in the treatment system where the problem is occurring, in quantities sufficient to address the problem.

2.2.2 Solids Removal

Much of the physical water treatment equipment at ICLP is designed for solids removal. Because of the high solids content of the incoming water, and variability in the nature and the content of the solids in the water, ICLP continuously reviews its approach to solids removal. Options available to ICLP operators include:

- Use of the existing clarifier system
- Use of the existing disc filter system

- Use of existing evaporator system

- Design and implementation of a new physical filtration system (underway)

- Use of chemical flocculents (possible future use)

Any one of these steps may not be necessary or appropriate for optimal operation of the ICLP zero discharge system. For example, the existing clarifier system is not currently being used, as solids handling is being performed more effectively using other steps.

ICLP currently plans to replace the existing disc filters with a new filtration system. The design of the new filtration system has not yet been determined.

2.2.3 Water Resource Redirection

To make use of every available water resource, ICLP needs the flexibility to redirect water streams to different water treatment system components, and to different ICLP process operations. The available options include the mixing of a smaller water stream of lower quality with a larger water stream of higher quality, in order to produce a mixed water stream that is still acceptable for use at ICLP.

ICLP currently plans some specific changes to the routing of water resource streams through the system.. Return water from the cooling tower and water from the wastewater equalization tank will be re-directed from the softener feed tank to flow directly to the softener building for treatment. This will allow treated water recirculated back to the softener building to be routed directly to the evaporator system. The remaining waste water will be directed to the softener feed tank, where the water will be filtered prior to use or storage for future use in the evaporator system. ICLP is also considering "side-streaming" a portion of the cooling tower water to the clarifier, bypassing the softener feed tank. Solids would be removed from such a stream through flocculation and use of a filter press.

2.2.4 Consistency with original design concepts

The changes listed in this section are all internal to the zero discharge system at ICLP. No new intakes or discharges are being proposed, and no changes need to be made to the Conditions of Certification. No new environmental impacts will be associated with the revisions to the water treatment system. Because it is a zero discharge system, each water stream is reused on-site. Internal treatment system changes do not affect the final outcome for the water, *i.e.* consumptive use at ICLP.

2.3 Site Plan Changes Reflecting As-Built Conditions

Several minor changes to the original site plan have occurred as the Facility has moved from construction to commercial operation and as adjustments to the Facility have been made, to address concerns that have been identified as the Facility has entered operation. These changes are discussed below.

All the changes discussed are in previously disturbed upland areas. No impacts have occurred to wetland or upland preserve areas. Minimal drainage impacts resulting from the site plan changes are presented in Section 2.3.4.

2.3.1 Truck Scales

Two truck scales were added to the Facility: one at the north end near the cooling tower, and one to the southeast of the power block near the wastewater storage pond. These scales are used for weighing the Facility's ash. The scales are also used to weigh other bulk materials (e.g. lime) on-site to assist with documentation of on-site storage quantities. This is consistent with Condition of Certification II. (6)B.4. that requires ICLP to detail the amount and type of materials produced at the site. The locations of the scales are shown on the site plan that is in Attachment C.

2.3.2 Additional Paved Areas to Improve Stormwater Runoff Quality

Experience at the Facility revealed that environmental benefits would be realized by adding pavement to certain areas near the lime storage system, and around the power block, in the area between the baghouse and the existing roadway. This paving was installed as a pollution prevention step. Paving allows superior control of runoff so as to ensure proper collection and treatment of runoff from the lime storage system prior to release into the environment. This prevents potentially high pH water from entering natural waterbodies. In addition, areas at the north end of the cooling tower and around the new scales are paved. These additional areas are shown on the as-built site plan included as Attachment C.

2.3.3 Accessory Buildings Not Included in the Original Site Layout

An outdoor open-shed area has been added to the warehouse to provide adequate storage for ancillary equipment and replacement parts that are necessary to ensure the careful and reliable operation of the Facility. The warehouse addition has a footprint of 1,000 square feet and is also highlighted on the Site Plan included as Attachment C. Also, a small office (about 500 square feet) for the water treatment system has been located adjacent to the existing softener building.

ICLP also proposes to construct an administration, conference and lunch building. This building, with a footprint of 1,300 square feet, is needed to provide sufficient office space to support ICLP's management team and the systems needed for the smooth operation of the Facility. This building is highlighted on the Site Plan included as Attachment C, and is scheduled for construction in the spring of 2000.

2.3.4 Changes in Design Storm Runoff Volumes Resulting From Site Plan Changes

The South Florida Water Management District requires that the runoff volume from the following design storms be contained by the proposed basins.

- 25-year, 72-hour storm (Precipitation = 9.5 inches)
- 10-year, 24-hour storm (Precipitation = 5.8 inches)
- 100-year, 72-hour storm (Precipitation = 12.2 inches)

Increases in impervious area have occurred in the drainage area for Basin 1 as delineated by Bechtel in Calculation No. H&H -SR-5 (Revision 4). These are:

- Truck Scale at the north end near the cooling tower (Area = 600 square feet);
- Paving near the open-shed area (Area = 240 square feet);
- Warehouse addition (Area = 1000 square feet);
- Water treatment office (Area = 500 square feet); and
- Lunch room (Area = 1300 square feet).

Table 2.3.1 shows the design storm runoff volumes calculated in Calculation No. H&H -SR-5 (Revision 4). Runoff volume (in acre-feet) was calculated as:

$$\text{Runoff} = \text{Area} \times \text{Runoff Coefficient} \times \text{Precipitation}$$

Table 2.3.1: Existing Runoff Volumes-Drainage Area 1

Land Use	Area (acres)	Runoff Coefficient	Runoff-25 year Storm (acre feet)	Runoff-10-year Storm (acre feet)	Runoff-100-year Storm (acre feet)
Paved and Buildings	2.0	0.85	1.34	.83	1.73
Pervious	5.6	0.25	1.11	.67	1.43
Basin	2.0	1.00	1.58	.96	2.01
Cooling Tower	0.9	0.00	0.00	0.00	0.00
Totals	**10.5**		**4.03**	**2.46**	**5.17**

Table 2.3.2 shows the design storm runoff volumes from the site given the proposed changes.

Table 2.3.2: Runoff Volumes-Drainage Area 1 With Site Changes

Land Use	Area (acres)	Runoff Coefficient	Runoff-25 year Storm (acre feet)	Runoff 10-year Storm (acre feet)	Runoff-100-year Storm (acre feet)
Paved and Buildings	2.1	0.85	1.41	.86	1.82
Pervious	5.5	0.25	1.09	.66	1.40
Basin	2.0	1.00	1.58	.96	2.01
Cooling Tower	0.9	0.00	0.00	0.00	0.00
Totals	**10.5**		**4.08**	**2.48**	**5.23**

As shown in the following table, the net increase in stormwater volume due to the proposed development is negligible. Further, according to the stage area-storage volume calculated for Basin #1 in Calculation No. H&H -SR-5 (Revision 4), the available storage volume at the top of the basin is 6.25 acre-feet. The basin can therefore hold the additional volume of runoff without any structural modifications.

Table 2.3.3: Comparison of Existing Runoff Volumes-DA1

	25-year storm (acre-feet)	10-year storm (acre-feet)	100-year storm (acre-feet)
Existing	4.03	2.46	5.17
Proposed	4.08	2.48	5.23
Increase	**.05**	.02	.06

Runoff from the proposed scale between the access road and the railroad would drain north through a swale to a catch basin and eventually to Wetland #2 to the west. The area draining to the catch basin is approximately 0.16 acres and is entirely pervious. Runoff to the catch basin before the addition of the scale is presented in Table 2.3.4.

Table 2.3.4: Existing Runoff Volumes to Catch Basin North of Proposed Scale

Land Use	Area (acres)	Runoff Coefficient	Runoff-25 year Storm (acre feet)	Runoff-10-year Storm (acre feet)	Runoff 100-year Storm (acre feet)
Pervious	0.16	0.25	0.03	0.02	0.04
Total	**0.16**		**0.03**	**0.02**	**0.04**

The proposed scale is approximately 0.03 acres in size. The runoff to the catch basin upon the addition of the swale is presented in Table 2.3.5.

Table 2.3.5: Runoff Volumes to Catch Basin Including Proposed Scale

Land Use	Area (acres)	Runoff Coefficient	Runoff-25 year Storm (acre feet)	Runoff-10-year Storm (acre feet)	Runoff 100-year Storm (acre feet)
Paved	0.03	0.85	0.02	0.012	0.026
Pervious	0.13	0.25	0.026	0.016	0.033
Total	**0.16**		**0.046**	**0.028**	**0.069**

As shown in the following table, the net increase in stormwater volume due to the proposed development will have a negligible effect on the large receiving wetland.

Table 2.3.6: Comparison of Existing and Proposed Runoff Volumes to Catch Basin North of the Proposed Scale

	25 (acre-feet)	10 (acre-feet)	100 (acre-feet)
Existing	.03	.02	.04
Proposed	.046	.028	.069
Increase	**.016**	**.008**	**.029**

2.3.5 Lime Delivery by Railcar

The original site certification authorized the delivery of lime by truck or railcar. The Facility was built with facilities for truck unloading of lime, with allowances in the design for the addition of a rail car unloading system in the future. ICLP now plans to build the rail unloading system for lime. The system is shown on the Piping and Instrumentation Diagram included in Attachment C.

The new railcar lime unloading system will have no impact on air quality at ICLP. The system uses the same emission point, and the same bin vent filter, as the current system. The transfer of lime is performed pneumatically through closed systems. This in an improvement over the rail transfer system originally proposed. No change is required to the PSD or Title V air permits, or the Conditions of Certification.

2.4 Alternative Cover for the Emergency Coal Pile

The Final Order in the site certification case for the Facility states that fugitive dust emissions from the outdoor storage of coal will be controlled by maintaining a grass sod cover over the Facility's coal pile (Findings of Fact No. 14). However, the Conditions of Certification do not require the use of sod. The Conditions of Certification authorize the use of alternate methods to control fugitive emissions from the coal pile. The use of sod has proven impractical. ICLP is currently applying an asphalt product over the emergency (outdoor) coal pile to control dust. This is consistent with the conditions of certification.

In correspondence with Hamilton Oven, the Department indicated that the alternative cover would be approved, provided ICLP submitted an updated Groundwater Monitoring Plan. This Plan was submitted to DEP on March 9, 1999. The Groundwater Monitoring Plan and related correspondence concerning the coal pile cover is included in Attachment C. These documents constitute ICLP's amendment to the SCA.

ICLP again requests written confirmation from DEP that the use of the alternate cover, instead of sod, is acceptable to the Department.

2.5 Completion of Ambient Air Quality Monitoring

The Conditions of Certification required a pre and post-construction air monitoring program. These programs have been completed and the monitors have been removed, based on verbal authorization from FDEP. ICLP now requests written confirmation from DEP that the monitoring requirements have been satisfied.

2.6 Continuous Emissions Monitor Span Range

The Continuous Emissions Monitors (CEMS) for outlet SO2 and NOx for the PC Boiler, and for NOx for the auxiliary boilers, use different ranges than those listed in 40 CFR 60 Subparts Da and Db. The ranges in use are more appropriate for the low emission levels achieved by these emission units. Documentation that the existing CEMS operating ranges are appropriate is shown in the correspondence included in Attachment D. ICLP now requests written confirmation from DEP that the CEMS span ranges described herein are satisfactory.

2.7 Hazardous Waste Storage Retention Time

In the Final Order for the site certification hearing, Paragraph 47 in the Findings of Fact discusses how ICLP will handle wastes, including hazardous wastes. The paragraph states in part "Hazardous wastes that are produced will be properly placed in a lined storage-for-disposal area and removed from the site within 90 days by a permitted hazardous waste transporter." The finding of fact envisioned ICLP as a large quantity generator and, therefore, summarized the requirements appropriate for large quantity generators.

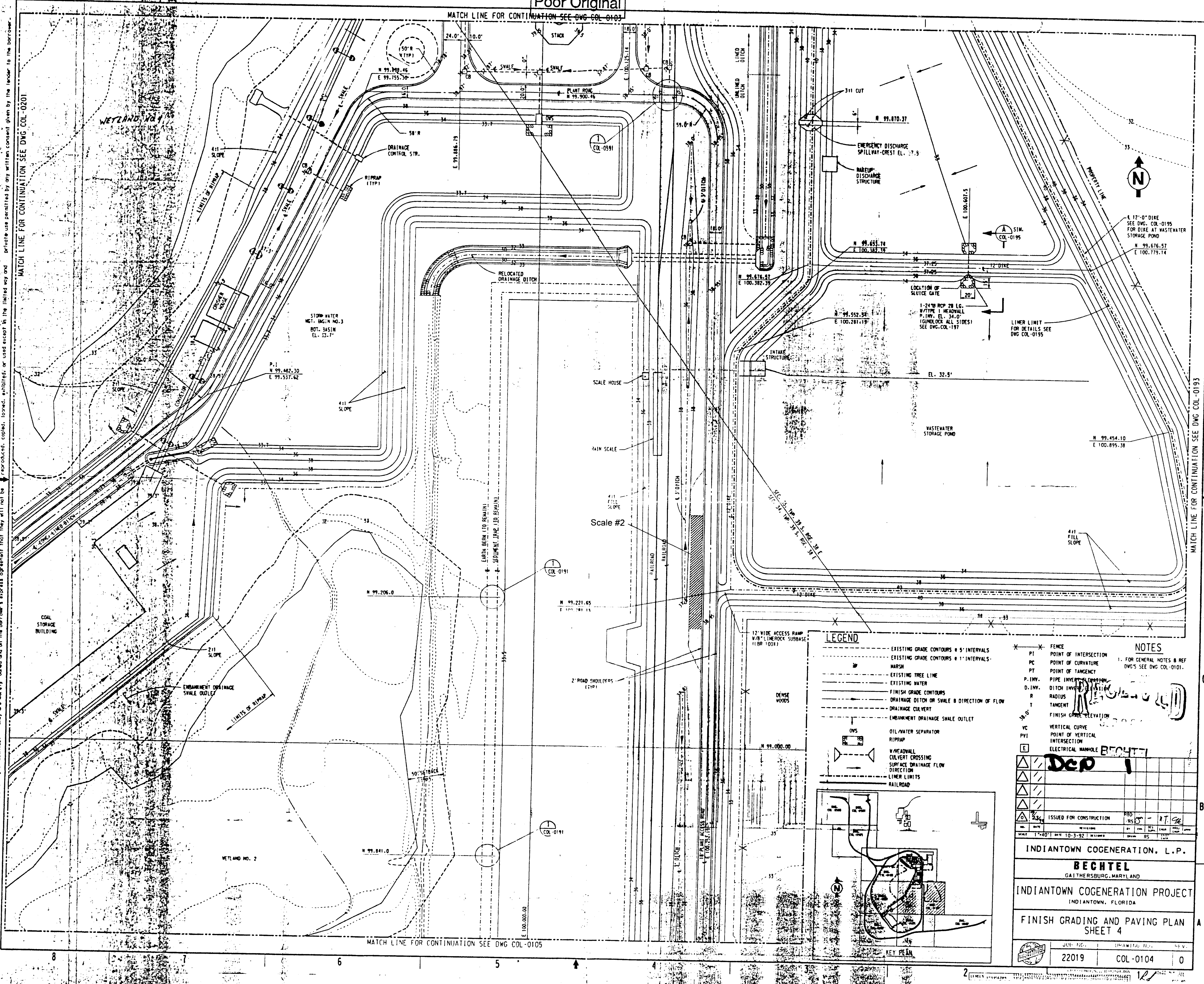
Federal regulations allow storage of filled drums in the lined storage-for-disposal area for up to 180 days. The regulations (40CFR264.34(d)) allow additional accumulation time for Small Quantity Generators to avoid the additional cost of many small waste shipments. Through waste minimization practices, ICLP has attained Small Quantity Generator status. The waste minimization practices, and ICLP's compliance with federal and Florida hazardous waste regulations, is consistent with the intent of the findings of fact.

Accordingly, ICLP now is amending the Site Certification Application to clarify that ICLP is a Small Quantity Generator, and filled containers of hazardous wastes may be stored for up to 180 days in the lined storage-for-disposal area, in compliance with the regulations in 40CFR262.34(d). If ICLP stores hazardous waste in quantities greater than the Small Quantity Generator threshold (1000 kilograms in a calendar month), ICLP will comply with the requirements for a Large Quantity Generator and will remove the wastes within 90 days.

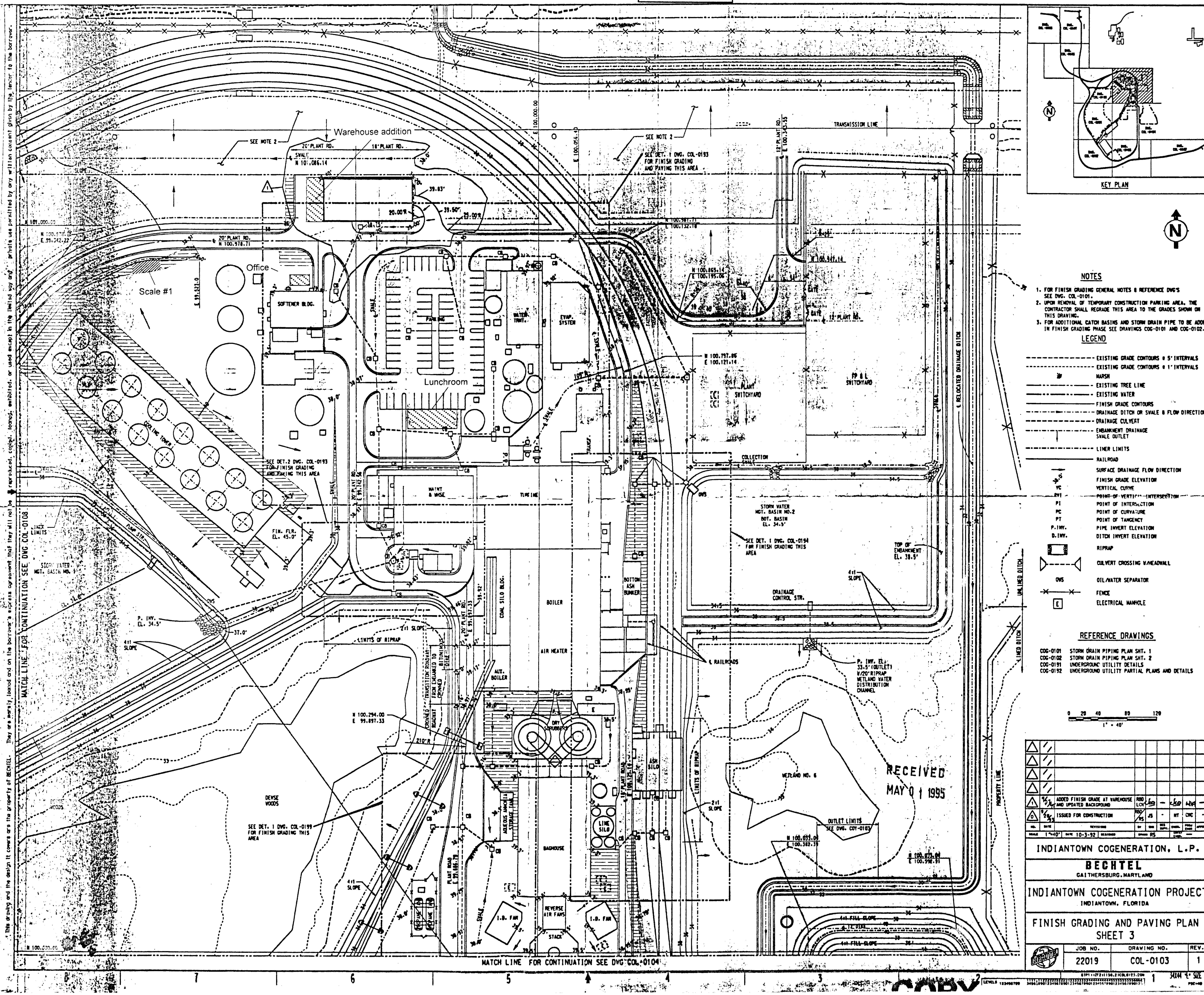
Attachment A

As-Built Site Plan

Poor Original

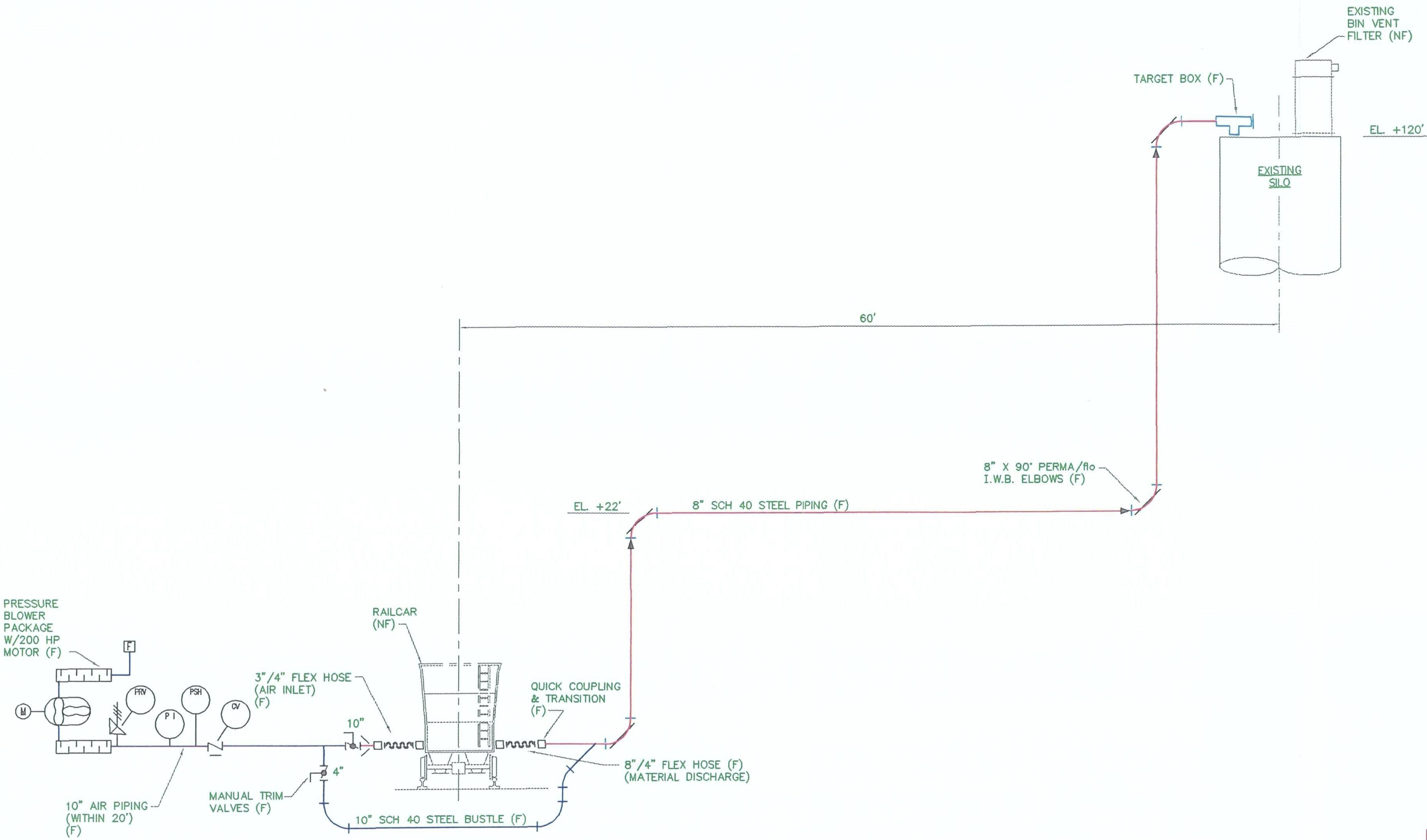


Poor Original



Attachment B

Lime Unloading P&ID



LEGEND

(F)	BY DELTA/DUCON
(FX)	BY DELTA/DUCON AT EXTRA COST
(NF)	BY OTHERS

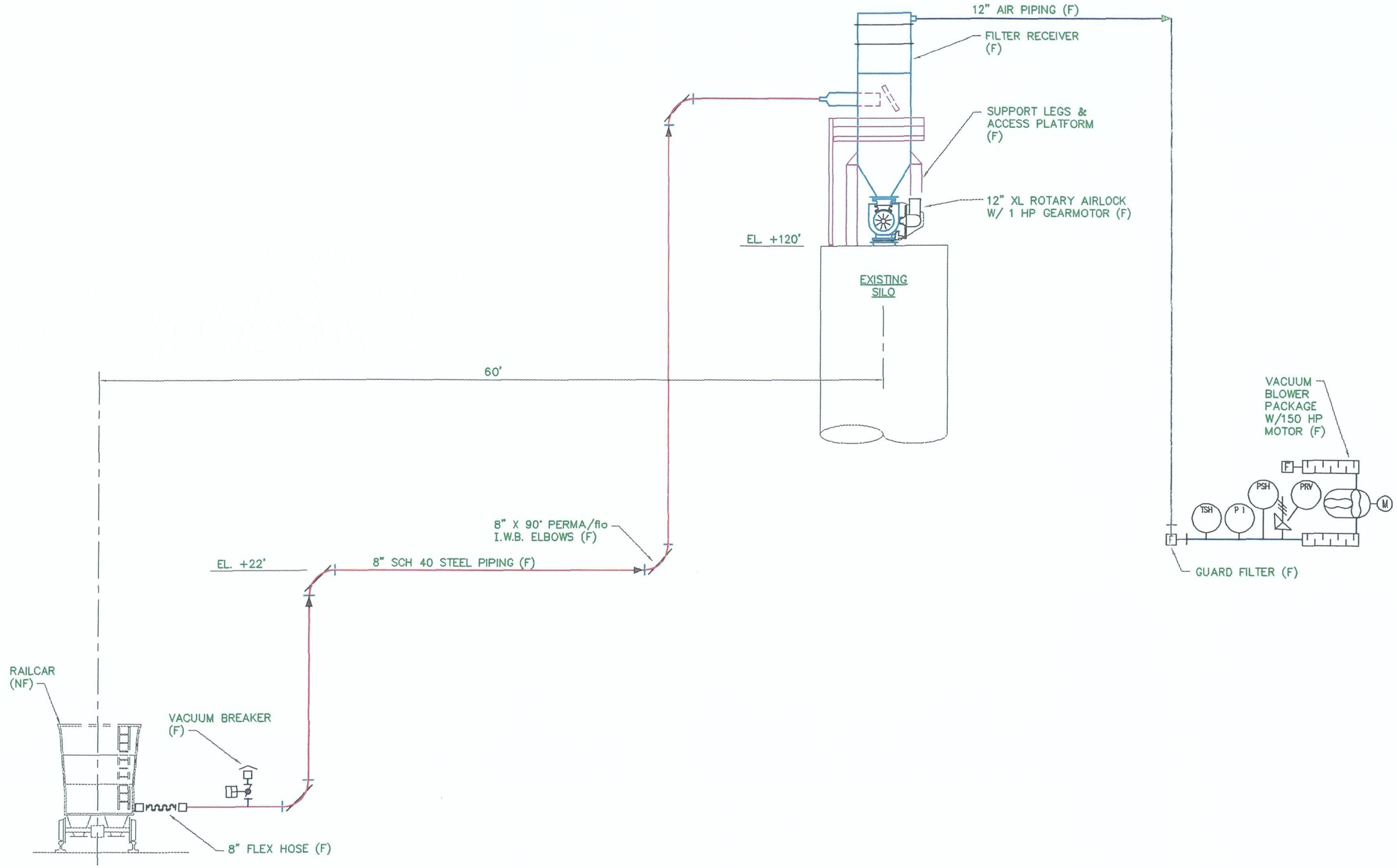
REV.	BY	DATE	DESCRIPTION	CH.	DATE
A	DJG	2/21/99	REV PER CLIENT COMMENTS		

DELTA DUCON
PNEUMATIC CONVEYING SYSTEMS & COMPONENTS
40 LLOYD AVENUE • MALVERN, PA • 19355-3020
TEL: (610)-695-9700 • FAX: (610)-695-9724

PROPOSED P.D RAILCAR PNEUMATIC CONVEYING SYSTEM P & ID
U.S. GENERATING
INDIANTOWN, FL

CERTIFIED
For: PROPOSAL INFO.
P.O. No.:
By:
Date:

SCALE: NONE		CONTRACT NO.: 99-02-587S	REV.
DRAWN D. GRECO	DATE: 2/18/99	STANDARD DWG.#:	A
CHECKED	DATE:	587-D01	
APPROVED	DATE:		



LEGEND

(F)	BY DELTA/DUCON
(FX)	BY DELTA/DUCON AT EXTRA COST
(NF)	BY OTHERS

CERTIFIED

For: PROPOSAL INFO.
P.O. No.:
By:
Date:

REV.	BY	DATE	DESCRIPTION	CH.	DATE
A	DJG		REV PER CLIENT COMMENTS		

DELTA DUCON
PNEUMATIC CONVEYING SYSTEMS & COMPONENTS
40 LLOYD AVENUE • MALVERN, PA • 19355-3020
TEL: (610)-695-9700 • FAX: (610)-695-9724

PROPOSED P.D RAILCAR VACUUM UNLOADING SYSTEM P & ID
U.S. GENERATING
INDIANTOWN, FL

SCALE: NONE		CONTRACT NO.: 99-02-5875	REV.
DRAWN D. GRECO	DATE: 2/18/99	STANDARD DWG.#	A
CHECKED	DATE:	587-D02	
APPROVED	DATE:		

Attachment C

Coal Pile Cover Correspondence

Indiantown Cogeneration, L.P.

Indiantown Cogeneration, L.P.
P.O. Box 1799
19140 SW Warfield Blvd.
Indiantown, FL 34956

Tel: 561.597.6500
Fax: 561.597.6210

March 9, 1999

Hamilton S. Oven, PE, Administrator
Siting Coordination Office
Department of Environmental Protection
2600 Blair Stone Rd., MS 48
Tallahassee, FL 32399-2400

VIA Federal Express

Re: ***Coal Pile Storage, PA 90-31***

Dear Mr. Oven:

Thank you for your continued efforts and support of ICLP. During your recent meeting with David Burrage and Michelle Golden you discussed several ongoing issues, including the propose changes to the coal pile covering material. As per your request of August 4,1998, Re: Coal Pile Storage, PA 90-31, please find attached a revised page of the Surficial Aquifer Ground Water Monitoring Plan containing an amendment reflecting the proposed new coal covering language.

It is my understanding that the district office will review this plan and comment to both of us on the proposed change. Please contact David Burrage at 561-597-6500 extension 19 if you have any questions.

Sincerely,

Stephen Sorrentino

Enclosures

cc: Michelle Golden

The cooling water storage pond will be enclosed within an earth embankment with a top elevation of 41 feet. The bottom of the pond and its internal embankment slopes will be lined with an impermeable flexible membrane to prevent seepage from the pond. A typical liner material would be a 60 mil high density polyethylene (HDPE) or equivalent. This liner is intended to prevent the water in the pond from infiltrating to the ground water table.

1.3.2 Inactive Coal Storage and Emergency Stack out Piles

The inactive coal storage and emergency stack out piles will be located in the southwest quadrant of the site and will cover an area of about 3.3 acres (Figure 2). The inactive coal storage pile will be approximately 25 feet high and will be treated with an asphaltic or equivalent coating onto the outer surface of the pile. It is sized to contain 30 days of compacted coal for use by the plant when delivery of the normal coal supply is interrupted. The emergency stack out pile will be uncovered and accommodate up to 30 carloads of incoming coal. This pile will contain coal only during an upset condition in the active coal storage building. The coal deposited here will be reclaimed back into the active coal storage building as soon as practical.

The worst case quality of the coal to be used by the Indiantown plant was determined for environmental licensing purposes as discussed in Section 3.3 of the Site Certification Application (SCA) (Ref. 2). An analysis if this coal is presented in Table 2 to provide an indication of the types of contaminants that may enter the ground water as the result of coal delivery to the Indiantown site.

The inactive coal storage and emergency stack out piles will be underlain by an impermeable liner to prevent runoff and leachate from infiltrating downward to the ground water table. The liner will consist of a single flexible membrane overlain by a drainage

Department of
Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

August 4, 1998

Mr. Stephen Sorrentino
Indiantown Cogeneration, .LP.
Post Offcie Box 1799
Indiantown, Florida 34956

Re: Coal Pile Storage, PA 90-31

Dear Mr. Sorrentino:

Please submit a revised page or copy of the Surficial Aquifer Ground Water Monitoring Plan containing an amendment reflecting the proposed new cover material. This revision to the Plan should be submitted to the Department's Southeast District Office. The District Office will review and comment to both of us on the proposed change.

Sincerely,

Hamilton S. Oven

Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

cc: Carlos Rivero-deAguilar, District Director
Al Mueller, P.E.

Attachment D

CEMS Span Range Correspondence

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 21, 1999

Mr. David Burrage
Indiantown Cogeneration, L.P.
19140 Southwest Warfield Blvd.
Indiantown, Florida 34956

Re: Span Values for NO_x and SO_2 CEMS

Dear Mr. Burrage:

Enclosed is a letter from EPA concerning your request for approval to use span values for your SO_2 and NO_x monitors which are different from those in 40 CFR 60 Subparts Da and Db. According to EPA the spans for your NO_x CEMS are acceptable. In order to resolve the issue concerning the span value for the SO_2 CEMS the data requested in the third paragraph of EPA's letter is needed. The data needed includes the historical coal sulfur content from the plant and a calculation of 50% of the maximum potential SO_2 emissions based on the historical fuel sulfur content.

You may also want to propose language to be placed in the Title V operating permit which clarifies that span values lower than those specified in the applicable NSPS subparts are appropriate in this case since EPA based the monitor span values on units with much higher emission levels that were prevalent at the time when these subparts were written.

If you have any questions, please contact Martin Costello at 850/921-9511, or write to me.

Sincerely,

Paul J Brandl for:

M. D. Harley, P.E., DEE
P.E. Administrator
Emissions Monitoring Section
Bureau of Air Monitoring
and Mobile Sources

MDH/mc

Enclosure

cc: Raisa Neginsky, SED
Scott Sheplak

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUN 0 1 1999

RECEIVED
JUN - 3 1999
Bureau of Air Monitoring & Mobile Sources

4APT-ARB

Mr. M.D. Harley, P.E., DEE
P.E. Administrator
Emissions Monitoring Section
Bureau of Air Monitoring and
Mobile Sources
Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJ: Alternative Continuous Emission Monitor Span Values at Indiantown Cogeneration, L.P., Indiantown, Florida

Dear Mr. Harley:

The purpose of this letter is to provide you with a written determination regarding the acceptability of alternative continuous emission monitor (CEM) span values currently in use for monitors installed on three boilers at the referenced plant. Indiantown Cogeneration L.P. (ICLP) refers to these units as the aux boilers and the main boiler. The two aux boilers are subject to 40 C.F.R. Part 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units), and the main boiler is subject to 40 C.F.R. Part 60, Subpart Da (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978). Based upon our review of CEM data submitted by ICLP on March 25, 1999, we have determined that the alternative nitrogen oxides (NO_x) span values for the monitors installed on all three units are acceptable. Since the March 25, 1999 letter from the company does not contain enough information for us to determine whether the span value for the sulfur dioxide (SO_2) monitor on the outlet of the scrubber used to control emissions from the main boiler is acceptable, our letter identifies the relevant factors that should be considered when evaluating the current span value for this monitor.

According to 40 C.F.R. §60.47a(i)(3), the required span value for the NO_x monitor on the main coal-fired boiler is 1000 parts per million (ppm), and according to 40 C.F.R. §60.48b(e)(2), the required span value for the NO_x monitors on the gas-fired aux boilers is 500 ppm. The NO_x monitor span values currently in use on the main and the aux boilers are 250 ppm and 300 ppm, respectively, and based upon emission monitoring results from the first quarter of 1999, ICLP was able to quantify all NO_x emissions from the main and aux boilers using these span values. The data submitted by ICLP consisted of hourly monitor results for the period of time between January 1, 1999, and March 17, 1999, and the maximum NO_x concentrations measured during this time period (199 ppm and 130 ppm, respectively for the main and aux boilers) were well below the corresponding span values currently used by ICLP. Therefore, it appears that NO_x concentrations in the flue gas from ICLP's boilers are considerably lower than those from the units the U.S. Environmental Protection Agency considered when it specified default NO_x span values for boilers subject to Subpart Da and Db. Unless NO_x concentrations in the flue gas from the aux and main boilers exceed their respective span values in the future, we recommend that ICLP be allowed to continue using the alternative NO_x monitor span values for the monitors installed on these units. Data from the NO_x monitoring systems at ICLP should be reviewed periodically to verify whether the current span values are still appropriate in the future. If the actual NO_x concentration at the outlet of any of the three units at ICLP ever exceeds the current span values, it will be necessary to increase the corresponding span value(s) in order to ensure that the company can quantify all NO_x emissions and potential exceedances of the applicable emission standard.

The current span value for the SO_2 monitor at the scrubber exit on the main boiler is 140 ppm, and over the course of the nearly three month period for which ICLP submitted data, there was one hour during which the outlet SO_2 concentration exceeded the monitor span. Over the time period for which ICLP provided data, the average SO_2 concentration in the boiler outlet stack was 52 ppm, and the outlet SO_2 level exceeded 75 percent of the monitor span for 17 of the approximately 1800 hours of operation addressed in the ICLP submittal. Therefore, even though ICLP was unable to quantify the magnitude of the SO_2 emissions for one of the operating hours in the first quarter of 1999, the SO_2 concentration was well below the current span value for more than 99 percent of the remaining hours in the quarter. The March 25, 1999, submittal from ICLP did not contain the information that we would need to review in order to determine whether the current SO_2 monitor span value on the main boiler has been set in accordance with provisions in 40 C.F.R. §60.47a(i)(5). Therefore, this letter identifies the factors that should be considered when determining the appropriate SO_2 monitor span for the main boiler, and we can give you additional assistance with the resolution of span issues for this monitor if ICLP supplies historical data regarding the sulfur content of coal burned in the main boiler.

According to 40 C.F.R. §60.47a(i)(5), the SO_2 monitor span at the outlet of a control device on a boiler subject to Subpart Da should be set at a level equivalent to 50 percent of the maximum estimated hourly potential emissions of the fuel fired. Although ICLP does not have an upper limit on the sulfur content of the coal it burns, setting the outlet span value based upon the maximum sulfur content of the coal actually burned at the plant rather than basing the calculation on some hypothetical "worst case" coal is recommended. If a worst case coal is used for the calculation, the resulting span value will be high enough to ensure that nearly all outlet emission rates can be quantified, but the monitor resolution under ordinary circumstances will be poor if the sulfur content of the coal normally burned is significantly less than that of the worst case coal used to the calculate the span.

We can think of two possible reasons that the SO_2 concentration at the outlet of ICLP's main boiler exceeded the span of the monitor installed on this unit. One potential reason is that the

the sulfur content of the coal burned on the day when the span value was exceeded may have been higher than that used by ICLP to calculate the span value of 140 ppm. The other potential reason is that a malfunction may have caused the efficiency of the scrubber on the main boiler to drop below 50 percent. Under this second scenario, setting the outlet monitor span value equal to 50 percent of the maximum potential emission rate of the fuel fired would create the potential for exceedances of the monitor span whenever the efficiency of the scrubber drops to 50 percent or below. Since the data submitted by ICLP thus far does not contain historical information regarding the maximum sulfur content of the coal actually burned at the company's Indiantown facility, we cannot determine the exact reason for the one exceedance of the SO_2 monitor span at ICLP during the first quarter of 1999. If the company set the span value of its outlet SO_2 monitor based upon 50 percent or more of its estimated maximum hourly potential emission rate, and if a scrubber malfunction caused the outlet SO_2 concentration to exceed the monitor span, Subpart Da would not automatically require that ICLP increase the span value of the monitor at the scrubber outlet.

If the SO_2 monitor span value at the scrubber outlet for the main boiler at ICLP is set at a level that corresponds to less than 50 percent of the estimated maximum hourly potential SO_2 emission rate, the span value should be increased in order to reduce the likelihood that the SO_2 concentration at the outlet will exceed the monitor span in the future. Although raising the SO_2 monitor span will decrease the monitor resolution and may reduce the accuracy of the monitoring results at the lower end of its range, using a higher span value will improve the ability to identify and quantify exceedances of the applicable emission standard. With respect to the two competing goals of obtaining better monitor resolution and being able to quantify all exceedances of the applicable standard, the latter is more important from an environmental standpoint. Therefore, the span of the SO_2 monitor on the main boiler at ICLP should be definitely be increased if it is currently set at a level that is less than 50 percent of the estimated maximum hourly potential SO_2 emission rate based upon coal that has historically been burned at the plant.

If you have any questions about the issues addressed in this letter, please contact Mr. David McNeal of my staff at 404/562-9102.

Sincerely,

Douglas Neeley

R. Douglas Neeley
Chief
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