



CIA Inspection Inc.

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# The Profiler

A NEWSLETTER OF INFORMATION FOR COKE DRUM OPERATORS

## CIAI and Fitness-for-Service Evaluations

We have had a few inquiries lately regarding how CIA Inspection's results from our laser and video inspection service can be used in a "Fitness for Service" evaluation. This article may help answer some of these inquiries.

### API 579 OVERVIEW

API 579 is a published document that attempts to standardize fitness for service assessment techniques for pressurized equipment.

As a recommended practice, it is not a stand-alone document but it is to be used in conjunction with API standard 653 and API codes 510 and 570. These standards and codes cover the inspection repair and alteration of atmospheric storage tanks, pressure vessels and piping in the petroleum and chemical industries.

The intent of API 579 is to determine the structural integrity of a vessel or in-service component containing a flaw or damage. This recommended practice is generally applied to service anomalies but can also be applied to upset induced flaws as well as construction related defects.

As a recommended practice, API 579 is not a mandatory code or standard, and its adoption or use by owner/operators is voluntary.

### APPLICATION TO COKE DRUMS

Coke drums are unique from the perspective of inspection because owners/operators do not treat them like other pressure vessels.

By definition, they are pressure vessels. The National Board and ASME both recognize any vessel or piping containing internal or external of 16 psig. or greater to be a pressure vessel.

All coke drums that CIAI has been involved with to date are designed and built to ASME Section VIII, Division 1 boiler and pressure vessel code. As pressure vessels they carry National Board registration numbers in the United States and CRN numbers in Canada.

The coking cycle is a batch process and under the evaluation requirements of API 579, they are considered cyclic therefore they fall under the most stringent FFS assessment.

Owner/operators generally apply detailed inspection plans to coke drums, but allow operation with

anomalies that would be considered unacceptable in other process vessels or piping systems operating with the same pressure temperature ratings, under far more conservative inspection plans.

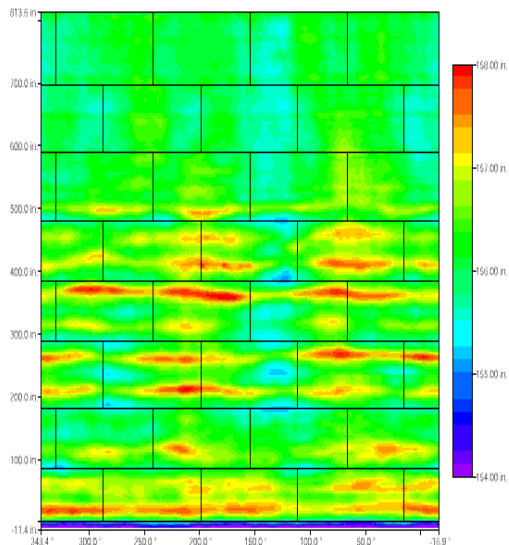
### CIAI DRUMVIEW & API 579

CIAI's unique drum scan inspection system can be readily used in API 579 assessments. Drumview software has the necessary tools to carry out detailed FFS assessment for dimensional anomalies under API 579 section 8.

Drumview tools can be used to evaluate all types of dimensional anomalies described in section 8. Drumview export capabilities allow the data to be applied to fatigue evaluation procedures in 579.

To the extent that the standard is applicable, CIAI can perform a FFS assessment and include the results as part of its standard reporting format.

For more information, please contact Rick Clark at 905-692-3678 or Mark Anderson at 905-692-0585.



Typical Drumview image map—colors represent distances from the drum radius. Green represents nominal base radius, red indicates outward distortions, blue inward and the black lines indicate the weld seams.

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## CIA Broadens its Inspection Service Area to Norway



*Inspection, Reliability and Engineering staff at the Statoil Refinery in Mongstad Norway after our wrap up meeting all sporting CIA hats.*

CIAI had the opportunity to perform a laser and video inspection on the two coke drums at the Statoil Refinery in Mongstad, Norway earlier this year. The refinery, near Bergen in western Norway, has an annual capacity of 10 million tonnes. It is ranked as the largest refinery in Norway.

The principal products are petrol, diesel oil and jet fuel. The heaviest oil components are used in part to produce petcoke, an important raw material for anode production in Norway's aluminum industry.



*Overhead shot of the Statoil Refinery in Mongstad, Norway. All crude oil refined at the plant comes from the Norwegian continental shelf.*

## "Coking Corner" Industry Conferences

2002 was an excellent year for "coking" seminars. CIAI attended several throughout the year and saw many familiar customer faces.

The second annual "Coking.com Best Practices Seminar" hosted by Bottom of the Barrel took place at the end of April in Houston, TX.

Why was it so worthwhile? With over 125 attendees, the conference had 3 full days packed with presentations each morning, valuable discussion each afternoon and networking each evening at the socials.

All the presenters were coker personnel and service experts. Jacqueline Cameron of CIA Inspection presented "Management Through Knowledge: A combined approach to coke drum life improvement". The new Delta Valve technology was also presented by Jim Blevins of Chevron-Texaco.



*Jim Blevins*

Even with these great presentations, the Breakout Groups were the highlight of the seminar. Although the attendees

were competitors, common interests were safety and reliability. At the end of the third day, several participants commented that they needed more time for the breakout sessions.



*Terry Serres of FHR*

For more information visit their website at [www.coking.com](http://www.coking.com), or call Bottom of the Barrel at 360 966-7251.

Another seminar of interest in the world of "cokers" was held in Seattle, WA at the beginning of June.

The sixth annual "Universal Consulting, Inc. Delayed Coking Seminar", proved beneficial for information on improving coker safety, operations, mechanical reliability and getting questions answered with regards to delayed cokers.

The audience of about 75 attendees consisted of both industry personnel and vendors. For more information, visit their website at [www.cokingcokers.com](http://www.cokingcokers.com) or call 281-990-9141 for info on next year's seminar.

## CIA Wins Local Business Achievement Award



Rick Clark and Dave Stratton of CIA proudly display the Hamilton Chamber of Commerce Outstanding Business Achievement Award.

CIA won in the "Small Business Category" for companies with fewer than 50 employees. This was the third year that CIA had been nominated for this award.

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### Upcoming Conferences of Interest

**API - September 29—October 2—Dallas, TX ([www.api.org](http://www.api.org))**  
(CIA will be hosting a booth at the Monday night welcome reception)