

Keeping you Straight and on Track

The professionals within the ATRS Crane System Survey Group have one objective in mind...keeping you straight and on track. Our Survey Options Menu provides a comprehensive selection of services to meet your specific needs for maintaining your runway system. By effectively gathering and analyzing information about exactly what is occurring within your system, our knowledgeable team will promptly identify problems and make suggestions on how to correct them.

A good crane runway system does not usually deviate from the engineered design without some external influence. Column settlement, tie-back damage, overloaded girders and loose or missing girder seat bolts can all contribute to the problem. A troublesome crane runway system usually receives significant assistance from one or more, less-than-cooperative, cranes.

Significant variations in rail gauge and/or crane span create areas of high, localized stress on the crane wheel flanges and crane wheel bearings. Those variations directly contribute to high lateral loads along the side of the head of the crane rail. When cranes track askew to the crane rail for an extended period of time, both the crane wheels and crane rail will experience premature deterioration and damage. Therefore, ATRS recommends the regular periodic surveying and motion analysis of the cranes in addition to the routine surveying of the crane runway.

As an industry leader in solving crane runway system troubles, ATRS has a highly skilled, in-house, designated survey and analysis team. The members of our team are required to undergo the POSI manufacturers' on-going training relative to the proper use of our state-of-the-art robotic survey instruments. Furthermore, each survey report is thoroughly analyzed by an industry veteran team member who is trained to keenly understand the information within the report and to make practical suggestions for solving the problems identified within your crane runway system.



CMAA Specification #70

Table 1.4.2-1

Evaluation Guides

Baseline A-B: A straight line between two points, on one side of the runway. This line is established by taking a measurement at both ends of the Runway. These points become reference points A and B. Baseline A-B acts as the reference line for subsequent measurements.

Offset: The measured distance that the Rail is offset from the Baseline, in plan view.

Span: Actual Rail to Rail distance determined from Span measurements adjusted for measured offsets.

Elevation: The measured distance from Baseline A-B, to the corresponding reference point on the rail. Positive elevation is above the Baseline, negative elevation is below.

TABLE 1.4.2-1

ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
CRANE SPAN (L)		L < 50' A = 1/8" L > 50' < 100' A = 1/4" L > 100' A = 3/8"	1/4" IN 20'-0"
STRAIGHTNESS (B)		B = 3/8"	1/4" IN 20'-0"
ELEVATION (C)		C = 3/8"	1/4" IN 20'-0"
RAIL-TO-RAIL ELEVATION (D)		L < 50' D = ± 3/16" L > 50' < 100' D = ± 1/4" L > 100' D = ± 3/8"	1/4" IN 20'-0"

Precision Crane Runway System Survey and Analysis Options Menu

Service No. 1: Crane Rail Only Survey & Analysis

This service will include our Precision Optical Survey and Analysis evaluation of the Crane Rail only for span, elevation and straightness. You will receive our full Data Analysis Report to assist you in quickly understanding our findings.

Service No. 2: Rail & Girder Visual Inspection

This service will include everything in Service No. 1 in addition to a professional visual observation of the entire system to include rail clips, pad and tie-backs. Digital photographs will be assembled and provided to you to assist in understanding our visual findings.

Service No. 3: Crane Rail & Girder Survey & Analysis

This service will include everything in Service No. 1 and No. 2 in addition to a survey of the actual girder positioning. Our focus will be on understanding the degree of eccentricity between the crane rail and girder web. The AIST Tech Report 24, Section 5.18.16 addresses eccentricity and notes that "In no case shall the rail eccentricity be greater than three-fourths of the girder web thickness."

Service No. 4: Crane Rail, Girder & Column Survey & Analysis

This service will include everything in Service No. 1, No. 2 and No. 3 in addition to a detailed and documented evaluation of the following:

- Column Seat Evaluation
- Column Straightness/Plumb Evaluation
- Column Base Plate Evaluation
- Professional report with digital photographs

Service No. 5: Comprehensive System Survey

This service will include everything in Service No. 4 and a detailed crane geometry and motion analysis for each crane on the runway.

Service No. 6: Time Sensitive Survey

This service can be added to any of the above selections. If the timeframe is tight, identify the service to be completed and how much time is available to access the targeted area. ATRS will assemble an offer to complete the work properly and incorporate enough manpower to complete the assignment within the allotted time.