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PUBLIC SERVICE  
COMMISSION

March 31, 2015

Mr. Jeff Derouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
P. O. Box 615  
Frankfort, KY 40602

Dear Mr. Derouen,

Pursuant to the Commission's Order of February 26, 2001 in Case No. 2000-429, Columbia Gas of Kentucky, Inc. hereby files its annual report for the Statistical Meter Testing Plan. An original and three copies are enclosed.

If you have any questions, please contact me at (859) 288-0242 or [jmcoop@nisource.com](mailto:jmcoop@nisource.com). Thank you.

Sincerely,



Judy M. Cooper  
Director, Regulatory Policy



**Columbia Gas of Kentucky, Inc.**

**2015**  
**Meter Sampling Annual Report,**  
**for program year 2014**

**Columbia Gas of Kentucky, Inc.**  
**A NiSource Company**  
**P.O. Box 14241**  
**2001 Mercer Road**  
**Lexington, KY 40512-4241**

**March 2015**

<b>1</b>	<b>2015 Meter Sample Annual Report</b>
<b>2</b>	<b>Exhibit A Identification of Control Groups</b>
<b>3</b>	<b>Exhibit B Domestic Meters Test Results</b>
<b>4</b>	<b>Exhibit C Large Volume Meters Test Results</b>
<b>5</b>	<b>Exhibit D Percentage of Domestic Meter Accuracy by Family</b>
<b>6</b>	<b>Exhibit E Percentage of Large Volume Meter Accuracy by Family</b>
<b>7</b>	<b>Exhibit F Cost Savings</b>
<b>8</b>	<b>Exhibit G Test Results of New Meters</b>

## **COLUMBIA GAS OF KENTUCKY INC.**

### **2014 METER SAMPLING ANNUAL REPORT**

Columbia Gas of Kentucky completed the nineteenth year of their Meter Sampling program in December 2014.

A total of 4575 meters making up 32 homogenous groups were sampled in 2014. Details are listed in the Evaluation of Data and Corrective Actions below.

In 2014 Columbia Gas of Kentucky service personnel made 42,777 visits to our customers' premises working orders that involved inspecting house lines and / or appliances. Columbia inspected 42,866 meter set assemblies in conjunction with the Customer Service Line Survey program.

No regulator failure in 2014 resulted in overpressure being delivered to the customer's piping.

Columbia continues to promote safety through:

#### **News Releases**

- 5/3/14 -- Call Before You Dig release to all media in CKY service area.
- 7/14/14 -- News release regarding increased fines for failing to call 811 before digging to all media in CKY service area.

#### **Bills & Bill Inserts**

- Monthly -- "Welcome to Columbia Gas of Kentucky" insert is sent to new customers and includes information about maintenance of customer-owned buried gas lines and Kentucky 811.
- 1/14 -- "For Your Safety & Comfort" insert is sent to all residential and small commercial customers. Includes information about carbon monoxide poisoning prevention and heating equipment maintenance.
- 1/14 -- "Your Service" customer newsletter included article about upgrades to pipeline infrastructure and keeping meters clear of snow and ice, as well as prevention of frozen pipes.
- 4/14 -- "Your Service" customer newsletter included article about how to detect a natural gas leak and what to do if one is suspected. Also included article about

Call 811 Before You Dig (with color code of markings) and information about Safe Digging Month.

- 7/14 -- "Your Service" customer newsletter included articles about Call Before You Dig, keeping clear access to meters, and appliance connectors.
- 8/14 -- Call 811 Before You Dig bill insert to all customers.
- 10/14 -- "Your Service" customer newsletter included articles about CO poisoning prevention and a reminder to change furnace filter/have furnace inspected prior to heating season.
- 11/14 -- "Scratch & Sniff" insert provides odor of gas awareness to all residential and small commercial customers.
- Left column of monthly bill for residential and small commercial customers includes bill messages regarding odor recognition/response, call before you dig and employee identification.
- Billing envelop (back flap) has Call 811 Before You Dig message.

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#### Website

- Safety tips (English & Spanish)
- Kentucky 811 information and link
- Contact Us form where customers can email safety-related and other questions to CKY staff
- News releases/featured safety items on home page

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#### Electronic Communications

- 1/4/14 -- Email to customers regarding winter safety tips
- 8/9/14 -- Email to customers regarding Call Before You Dig
- 11/25/14 -- Email to customers regarding odor recognition/response

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#### Community Outreach

- Customer letters and door hangers associated with large pipeline replacement projects include information about odor recognition/response
- Job site media interviews usually include messaging about Call Before You Dig; odor recognition/response
- Pipeline safety brochure available in English & Spanish
- Natural gas safety education materials provided to teachers upon request through the National Energy Foundation
- 811 booth at events including Beer Cheese Festival (Winchester), Court Days (Mt. Sterling), Mushroom Festival (Irvine), Memorial Day Parade (Ironton), National Farm Machinery Show (Louisville), Grand Tour of Homes (Lexington)
- CKY employees helped to coordinate 811 Run and Basketball Tournament, both in Winchester.

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#### Advertising

- Safety ad campaign focusing on Call Before You Dig was placed in radio, public radio, print and outdoor media in May-June 2014. Print ads created in English and Spanish as appropriate for the publication. Radio markets included

Lexington, Floyd County, Maysville, and Boyd County. Radio campaign also included UK sports package from August through December.

- Safety ad campaign focusing on odor recognition/response was placed in radio and public radio in November - December.
- Additional Call 811 Before You Dig billboards were located at Lexington Legends baseball park and on I-75 N near the Madison-Fayette County line.

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Excavator/Emergency Responder Training/Outreach

- 10/14 -- Served as primary sponsor of Buffalo Trace Fire School in Maysville, KY
- Sponsored natural gas safety training sessions for excavators and emergency responders April 7 - June 26 in Mt. Sterling, Hazard, Grayson, Prestonsburg, Richmond, Maysville, Ashland, and Lexington.
- 10/14 -- Letter from Field Leaders to community leaders/emergency responders regarding emergency preparation and response, including railroad derailment procedures.

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Other

- 9/14 -- Letter to railroad operators regarding derailment procedures related to natural gas lines.

### Evaluation of Data

- A total of 4375 domestic meters making up 29 homogenous Control Groups were sampled in 2014.
- Of the 4375 meters sampled 175 tested outside the required accuracy of +/- 2% and were classified a failed meter.
- 4.0% of the domestic meters pulled for meter sampling failed.
- 27 of the 28 homogenous Control Groups passed the requirements of American National Standards Institute / American Society for Quality Control Z 1.4.
- A total of 200 Large Volume meters making up 4 homogenous Control Groups were sampled in 2014.
- Of the 200 Large Volume meters sampled, 6 tested outside the required accuracy of +/- 2% and were classified a failed meter.
- 3.0% of Columbia Gas of Kentucky's Large Volume meters failed.

- All 4 Large Volume homogenous Control Groups passed the requirements of American National Standards Institute / American Society for Quality Control Z 1.4.

### Failed Family

- Columbia Gas was able to identify a shipment of 1200 meters in the American 608 family KYNAM08 that tested extremely poor causing the Failed Family. Columbia has created a sub-family KYNAM09FL consisting of the remaining 798 meters for 2015 and will remove these poor performing meter by the end of 2015.

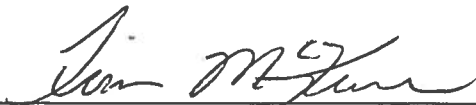
### Corrective Action

- Columbia Gas of Kentucky will continue to in-test and retire, when pulled from service, meters that have established a poor performance record even though their group has not failed. In previous filings we have listed individual meters that are retired due to poor performance. We are now in-testing and retiring all meters that are not temperature compensated. This eliminates poor performing meters from being re-installed.

### Regulator Failures

- Columbia Gas of Kentucky had 33 regulator failures in 2014. Due to full internal relief of the regulator, none resulted in an overpressure situation for the customer.
- 15 regulators had gas leakage from the vent.
- 10 regulators would not adjust or lock up correctly.
- 8 were leaking at the body of the regulator

Should you have any questions, contact Timothy McKune at (859) 288-0241.



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Timothy McKune  
Compliance Manager  
Columbia Gas of Kentucky

**EXHIBIT A**

**IDENTIFICATION OF EACH CONTROL GROUP**  
**OR METER FAMILIES**

**A five-character number identifies each Control Group or Family. 1-2-3-4-5**

**1 Identifies if Control Group or Family is new or repaired meters**

**N = New  
R = Repaired**

**2-3 Identifies Meter Manufacturer**

**AM = American  
RO = Rockwell  
LA = Lancaster  
SP = Sprague**

**4-5 Identifies the age of the Group or Family**

**Example – Identifier RAM01 indicates a Repaired American Meter. The 01 represents the oldest group of repaired American meters. A detail of the age of each group is found in Exhibit D & E.**

**Large Volume meters 500 – 1500 CFH follow the same format with a “B” in front of the identifier.**



**EXHIBIT B**

**2014 COLUMBIA GAS OF KENTUCKY DOMESTIC  
METER SAMPLING TEST RESULTS**

**Page 1 & 2 of Exhibit B gives a summary of each Domestic (0 – 500 CFH) Family. Listed on page 1 & 2 of exhibit are:**

- 1. Name of the Family Codes**
- 2. Total number of meters in that family on the customer's premises**
- 3. Total number of meters in that family required to be sampled**
- 4. Total number of meters sampled**
- 5. Total number of meters in-testing outside the required +/- 2%**
- 6. Total number of meters allowed to fail**
- 7. Passed/Failed Status of Meter Family**
- 8. Percentage of meters failed per Family**
- 9. Number of meters failed fast**
- 10. Number of meters failed slow**

**Page 3 of Exhibit B identifies in graph form the percentages of meters within tolerance since Columbia Gas of Kentucky began sampling in 1996. This is a combined listing of all domestic meter groups.**

# 2014 COLUMBIA GAS OF KENTUCKY METER SAMPLING RESULTS

Samples taken between 2014-01-01 and 2014-12-31  
**"A" Class Meters 0-500 CFH**

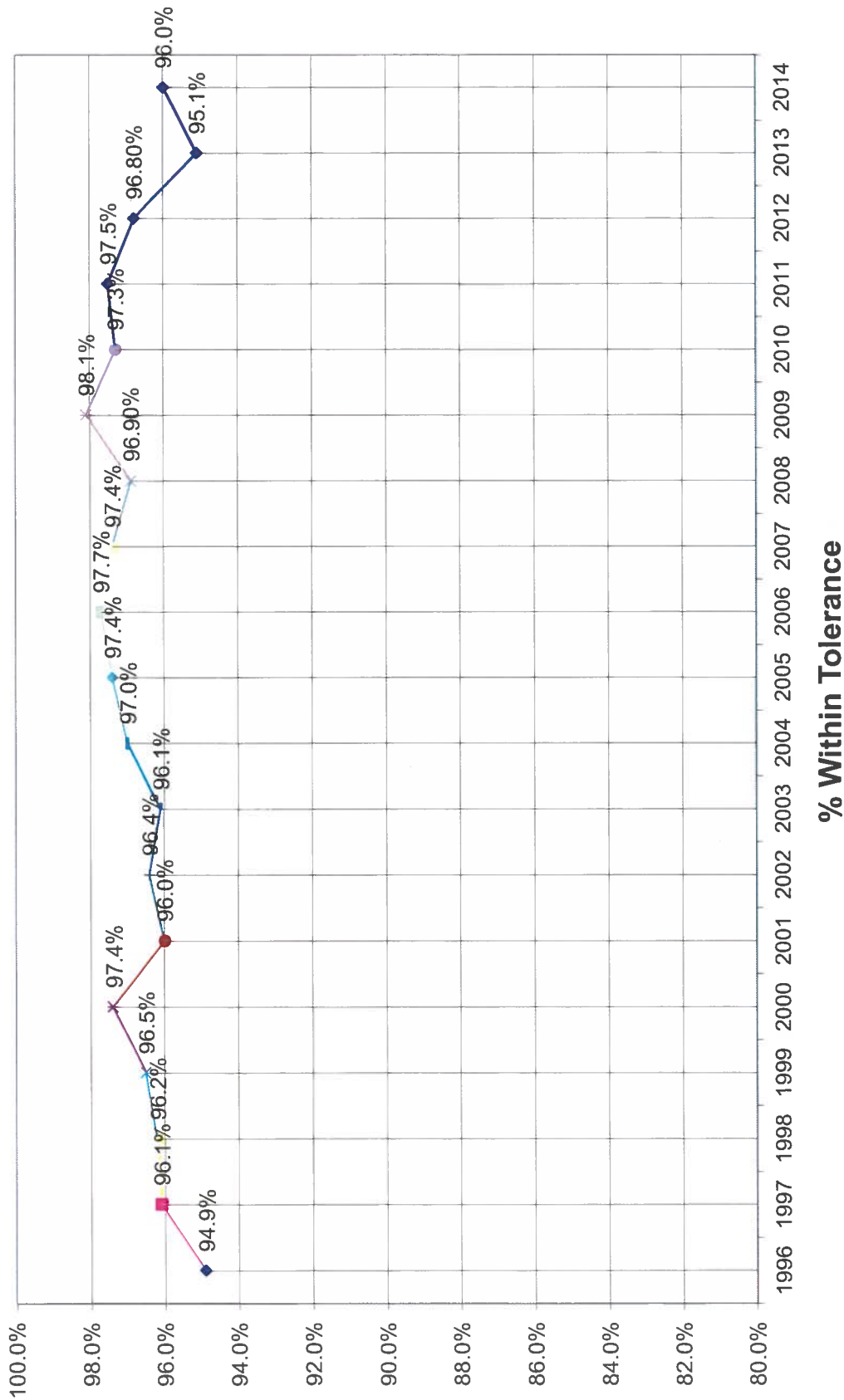
FAMILY CODES	TOTAL MTRS. IN FAMILY		TOTAL MTRS REQ'D IN PROGRAM	TOTAL SAMPLED	TOTAL FAILED METERS	TOTAL REJECTS ALLOWABLE	2014 FAMILY STATUS	RATIO FAILED (d/c=g)	NUMBER FAILED	
	(a)	(b)							(c)	(d)
NAM01	1222	125	125	125	3	14	PASSED	2.4%	1	2
NAM02	3488	200	201	201	3	21	PASSED	1.5%	0	3
NAM03	2608	125	125	125	2	14	PASSED	1.6%	1	1
NAM04	1933	125	125	125	0	14	PASSED	0.0%	0	0
NAM05	345	50	50	50	0	7	PASSED	0.0%	0	0
NAM06	4703	200	200	200	1	21	PASSED	0.5%	0	1
NAM06A	4860	200	200	200	5	21	PASSED	2.5%	3	2
NAM07	4890	200	200	200	19	21	PASSED	9.5%	19	0
NAM08	7379	200	203	203	23	21	FAILED	11.3%	23	0
NAM09	5848	200	214	214	20	21	PASSED	9.3%	20	0
NAM10	7158	200	200	200	2	21	PASSED	1.0%	2	0
NAM11	5883	200	201	201	2	21	PASSED	1.0%	1	1
NLA01	742	80	83	83	2	10	PASSED	2.4%	0	2
NLA02	4242	200	205	205	1	21	PASSED	0.5%	0	1
NRO01	3535	200	203	203	8	21	PASSED	3.9%	5	3

NRO02	6635	200	200	20	21	PASSED	10.0%	18	2
NSP01	93	20	20	1	3	PASSED	5.0%	0	1

Samples taken between 2014-01-01 and 2014-12-31  
**"A" Class Meters 0-500 CFH**

FAMILY CODES	TOTAL MTRS. IN FAMILY (a)	TOTAL MTRS REQ'D IN PROGRAM (b)	TOTAL SAMPLED (c)	TOTAL FAILED METERS (d)	TOTAL REJECTS ALLOWABLE (e)	2014 FAMILY STATUS (f)	RATIO FAILED (d/c=g)	NUMBER FAILED	
								FAST (h)	SLOW (i)
RAM02	274	32	32	2	5	PASSED	6.3%	1	1
RAM03	858	80	80	2	10	PASSED	2.5%	1	1
RAM04	5683	200	201	12	21	PASSED	6.0%	0	12
RAM05	9231	200	201	7	21	PASSED	3.5%	0	7
RAM06	8031	200	200	2	21	PASSED	1.0%	1	1
RLA03	2713	125	127	4	14	PASSED	3.1%	1	3
RRO01	2918	125	125	8	14	PASSED	6.4%	4	4
RRO02	3076	125	126	9	14	PASSED	7.1%	1	8
RRO03	5490	200	201	6	21	PASSED	3.0%	1	5
RRO04	2705	125	127	3	14	PASSED	2.4%	3	0
RSP01	4130	200	200	8	21	PASSED	4.0%	0	8
<b>TOTAL</b>	<b>110673</b>	<b>4337</b>	<b>4375</b>	<b>175</b>			<b>4.0%</b>	<b>106</b>	<b>69</b>

**Columbia Gas of Kentucky Inc.  
"A" Meter Program  
Overall Results**



**EXHIBIT C**

**2014 COLUMBIA GAS OF KENTUCKY LARGE VOLUME  
METER SAMPLING TEST RESULTS**

Page 1 of Exhibit C gives a summary of each Large Volume (500 - 1500 CFH) Family. Listed on page 1 of exhibit are:

1. Name of the Family Codes
2. Total number of meters in that family on the customer's premises
3. Total number of meters in that family required to be sampled
4. Total number of meters sampled
5. Total number of meters in-testing outside the required +/- 2%
6. Total number of meters allowed to fail
7. Passed/Failed Status of Meter Family
8. Percentage of meters failed per Family
9. Number of meters failed fast
10. Number of meters failed slow

Page 2 of Exhibit C identifies in graph form the percentages of meters within tolerance since Columbia Gas of Kentucky began sampling in 1996. This is a combined listing of all large volume groups.

## 2014 COLUMBIA GAS OF KENTUCKY METER SAMPLING RESULTS

Samples taken between 2014-01-01 and 2014-12-31  
**"B" Class Meters 500 - 1500 CFH**

FAMILY CODES	TOTAL MTRS. IN FAMILY		TOTAL MTRS REQ'D IN PROGRAM	TOTAL SAMPLED		TOTAL FAILED METERS		TOTAL REJECTS ALLOWABLE		2014 FAMILY STATUS	RATIO FAILED		NUMBER FAILED	
	(a)	(b)		(c)	(d)	(e)	(f)	(d/c=g)	(h)		(i)			
BNAM01	589	80	80	80	5	10	PASSED	6.3%	5	0				
BRAM01	1141	80	80	1	10	PASSED	1.3%	1	0					
BRRO01	166	32	32	0	5	PASSED	0.0%	0	0					
BRSP01	30	8	8	0	1	PASSED	0.0%	0	0					
<b>TOTAL</b>	<b>1926</b>	<b>200</b>	<b>200</b>	<b>6</b>	<b>200</b>	<b>6</b>	<b>3.0%</b>	<b>6</b>	<b>0</b>					

**Columbia Gas of Kentucky Inc.  
"B" Meter Program  
Overall Results**

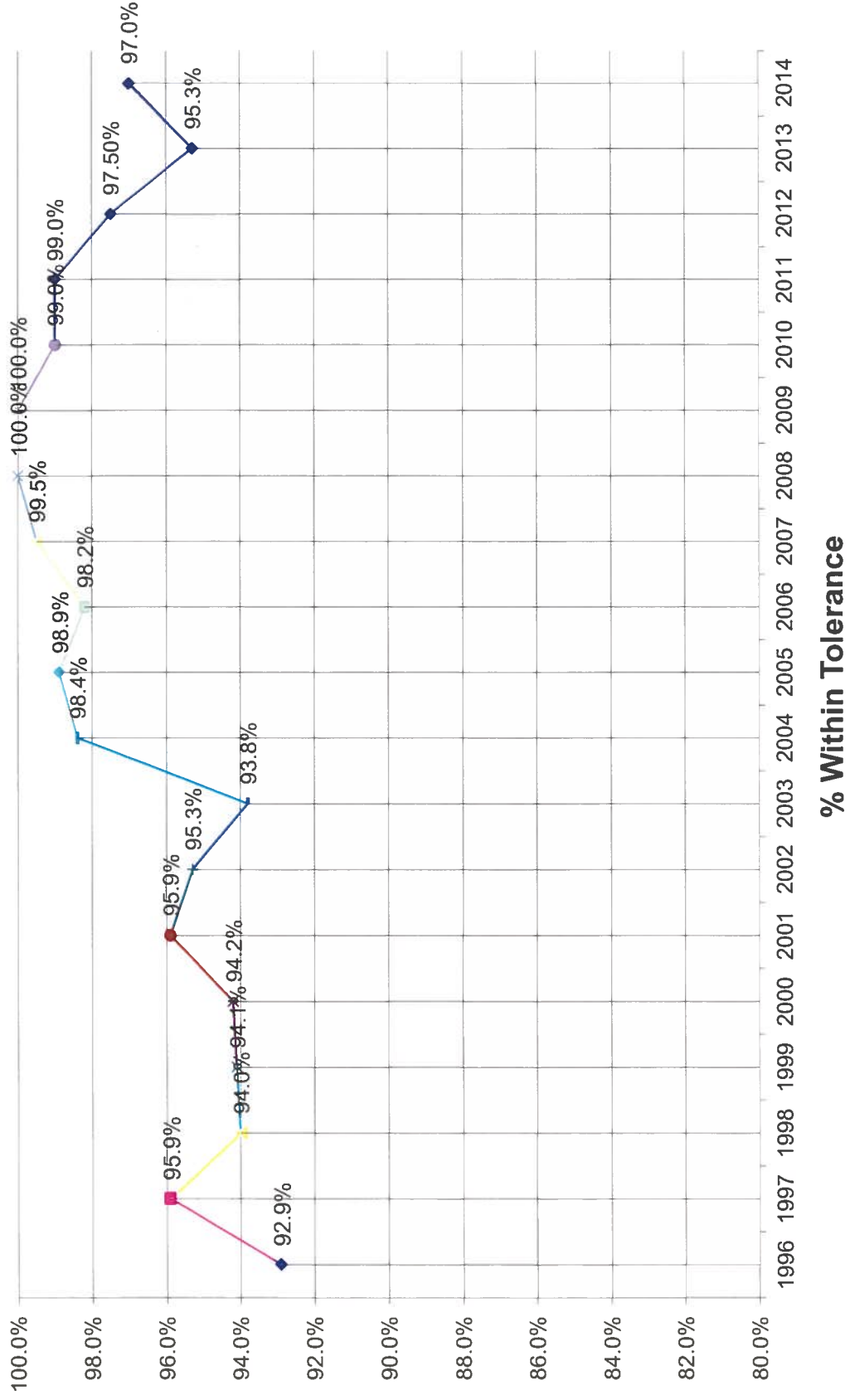


EXHIBIT D

**PERCENTAGE OF DOMESTIC METER ACCURACY**  
**BY FAMILY**

**Exhibit D - represents the percentage of meters sampled in 2014 that were within the +/- 2% rate, identified by homogenous group. We also show previous results of meter families sampled in the past ten years.**

**NAM01 = New American meters purchased between 1981 & 1990**

**NAM02 = New American meters purchased between 1991 & 1993**

**NAM03 = New American meters purchased in 1994**

**NAM04 = New American meters purchased in 1995**

**NAM05 = New American meters purchased in 1996**

**NAM06 = New American meters purchased in 1997 & 2000**

**NAM06A= New American meters purchased in 2001 & 2002**

**NAM07 = New American meters purchased in 2003**

**NAM08 = New American meters purchased in 2004**

**NAM09 = New American meters purchased in 2005**

**NAM10 = New American meters purchased in 2006 & 2008**

**NAM11= New American meters purchased in 2010 & 2012**



**NLA01 = New Lancaster meters purchased in 1987**

**NLA02 = New Lancaster meters purchased between 1989, 1990, & 1992**

**NRO01 = New Rockwell meters purchased between 1983 & 1996**

**NRO02 = New Rockwell meters purchased between 1997 & 1999**

**NSP01 = New Sprague meters purchased between 1982 & 1996**

**RAM02 = Repaired American meters installed in 1987 & 1989**

**RAM03 = Repaired American meters installed in 1990 & 1991**

**RAM04 = Repaired American meters installed between 1992 & 1996**

**RAM05 = Repaired American meters installed between 1997 & 2005**

**RAM06 = Repaired American meters installed in 2006, 2008, 2010, & 2012**

**RLA03 = Repaired Lancaster meters installed between 1987 & 2006**

**RRO01 = Repaired Rockwell meters installed between 1981 & 1989**

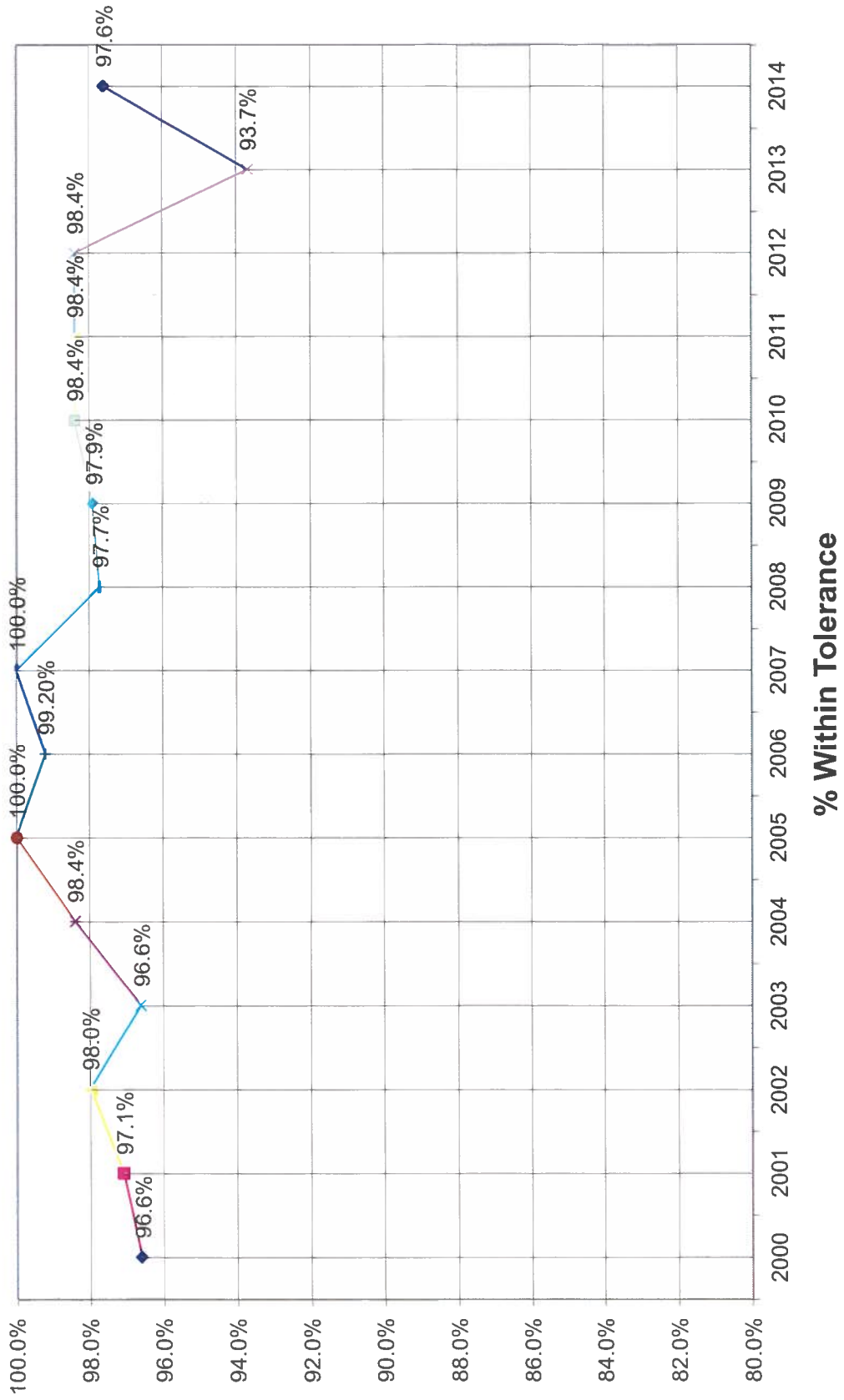
**RRO02 = Repaired Rockwell meters installed between 1990 & 1993**

**RRO03 = Repaired Rockwell meters installed between 1994 & 2003**

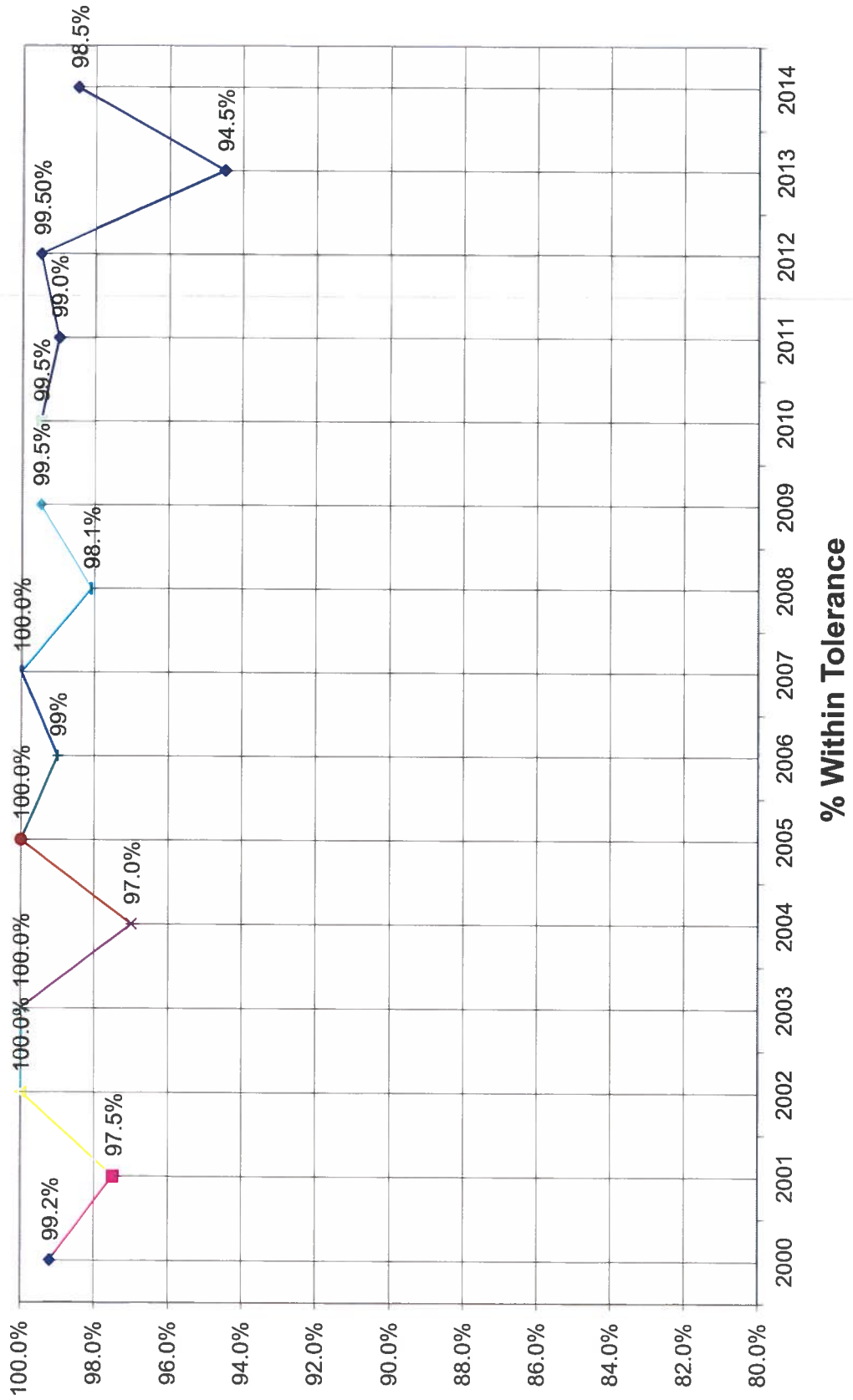
**RRO04 = Repaired Rockwell meters installed between 2004, & 2012**

**RSP01 = Repaired Sprague meters installed between 1983 & 2006**

NAM01

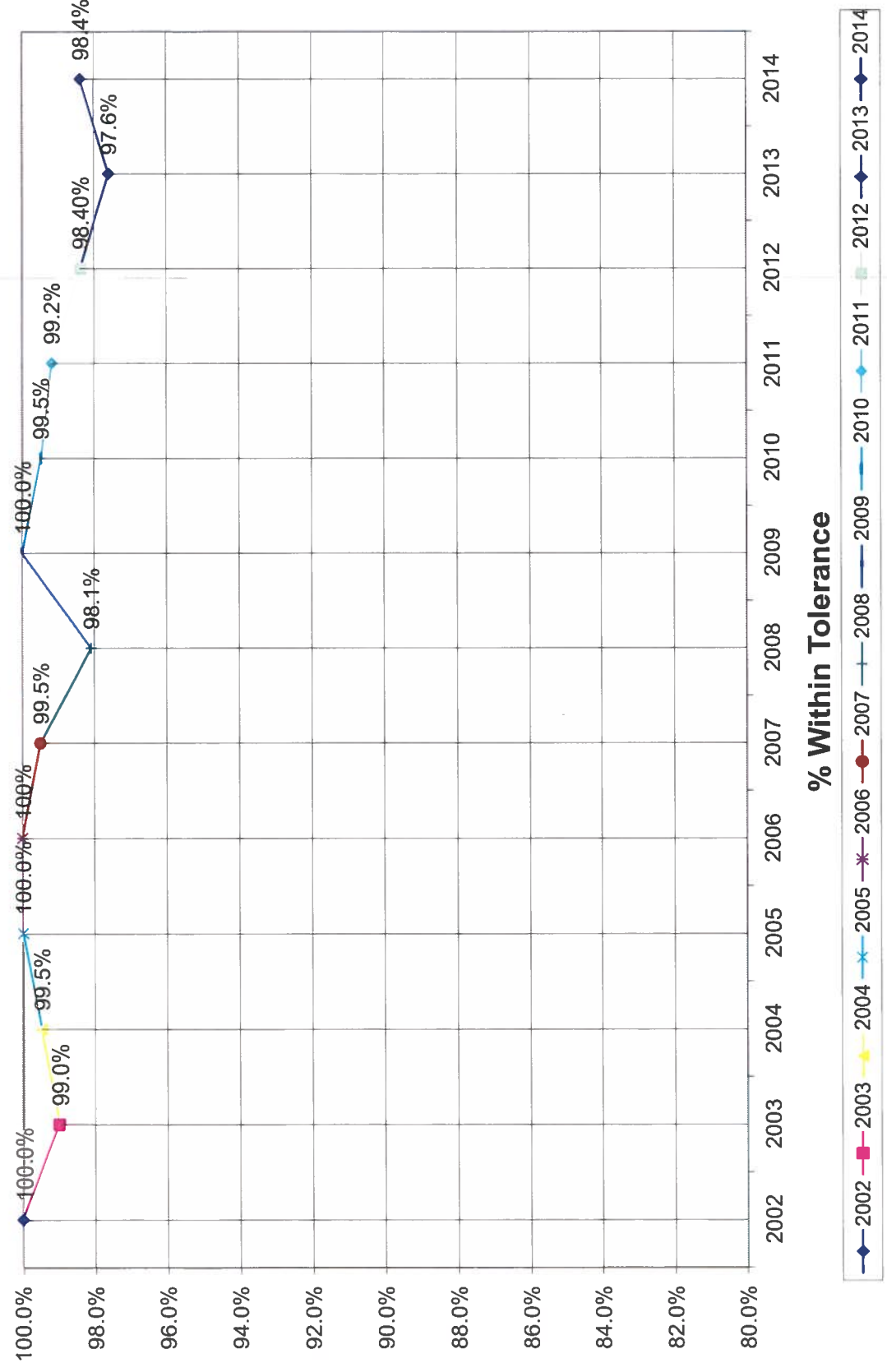


**NAM02**



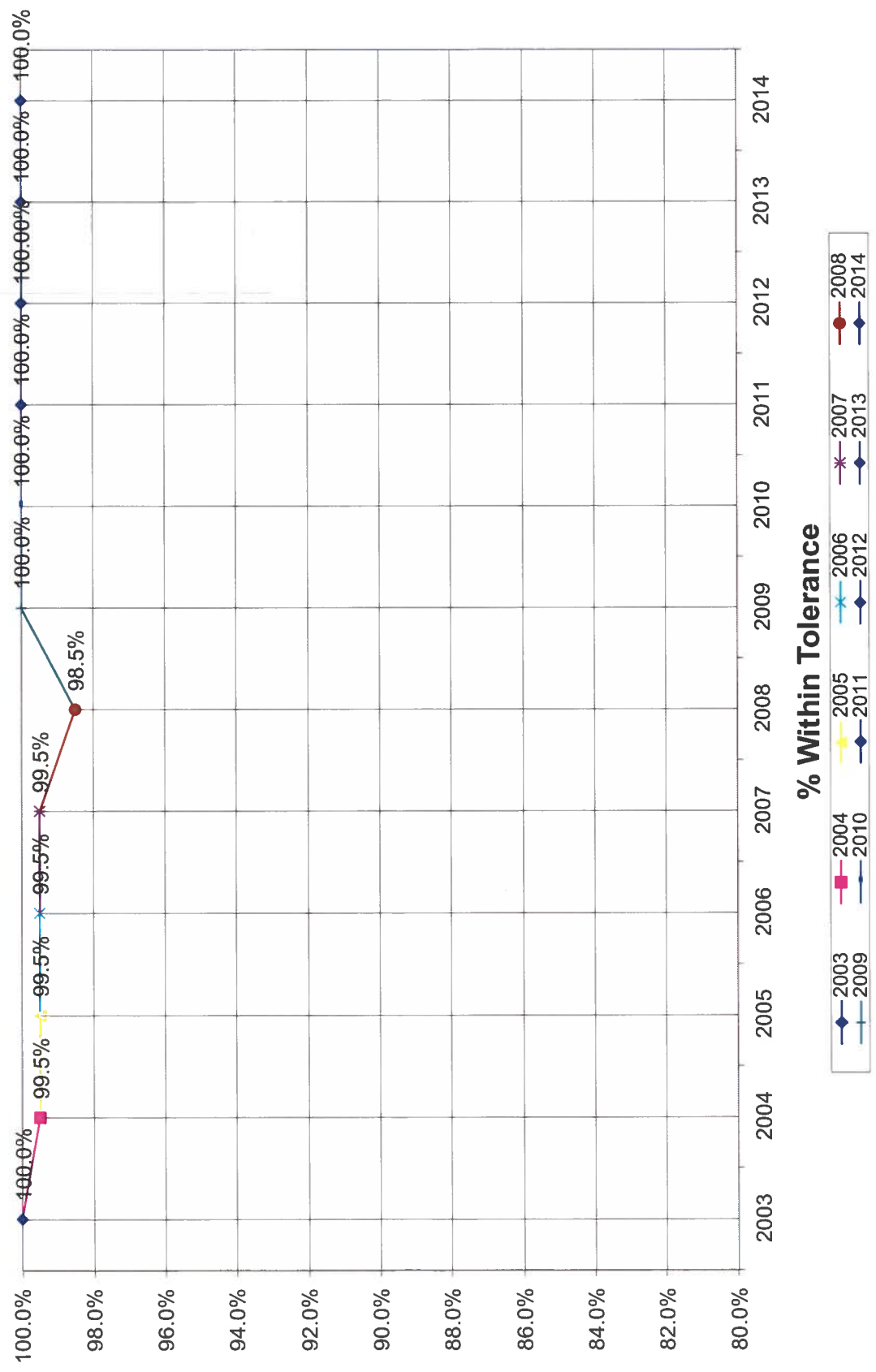
**% Within Tolerance**

NAM03



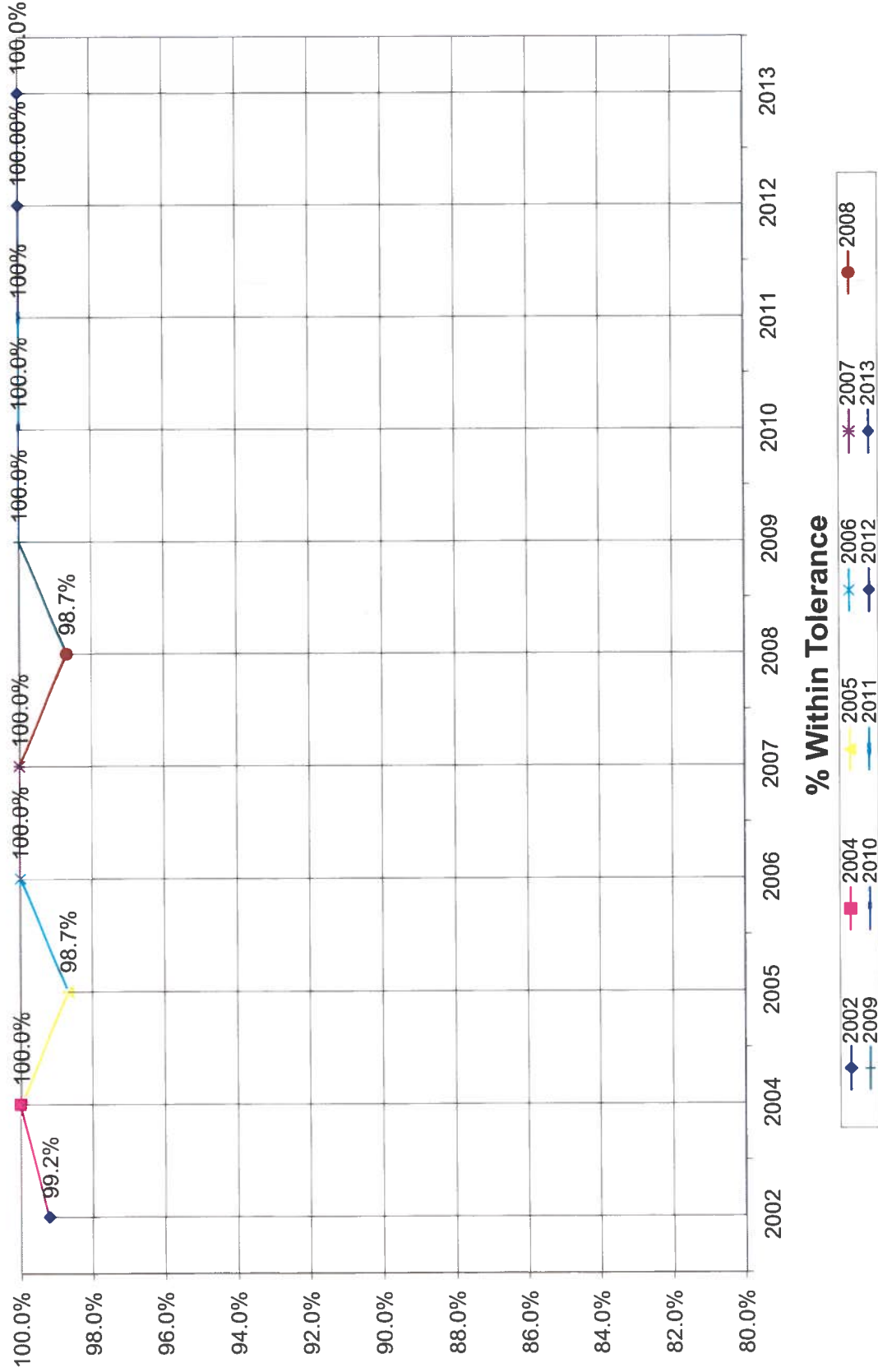
% Within Tolerance

NAM04

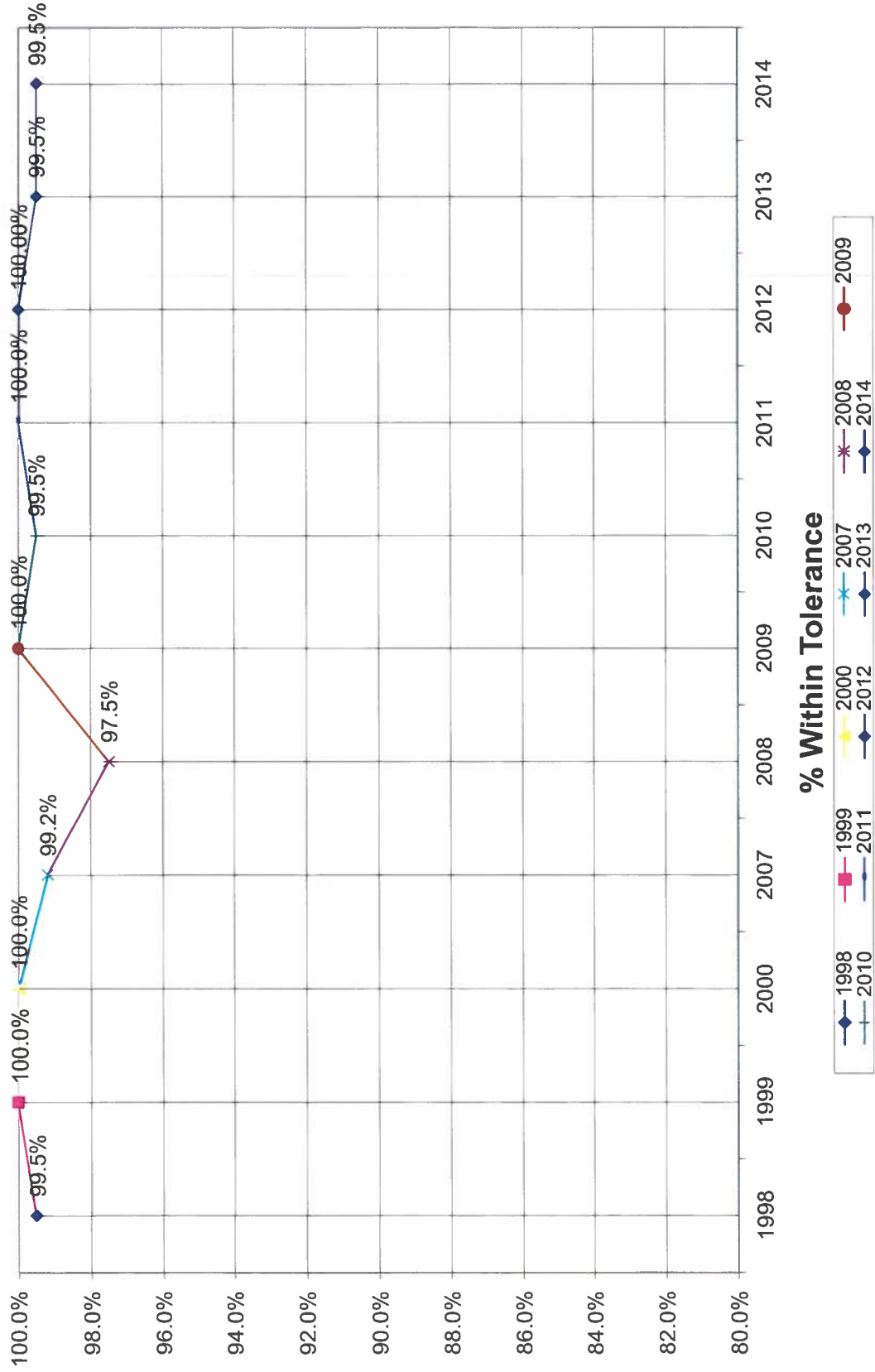


% Within Tolerance

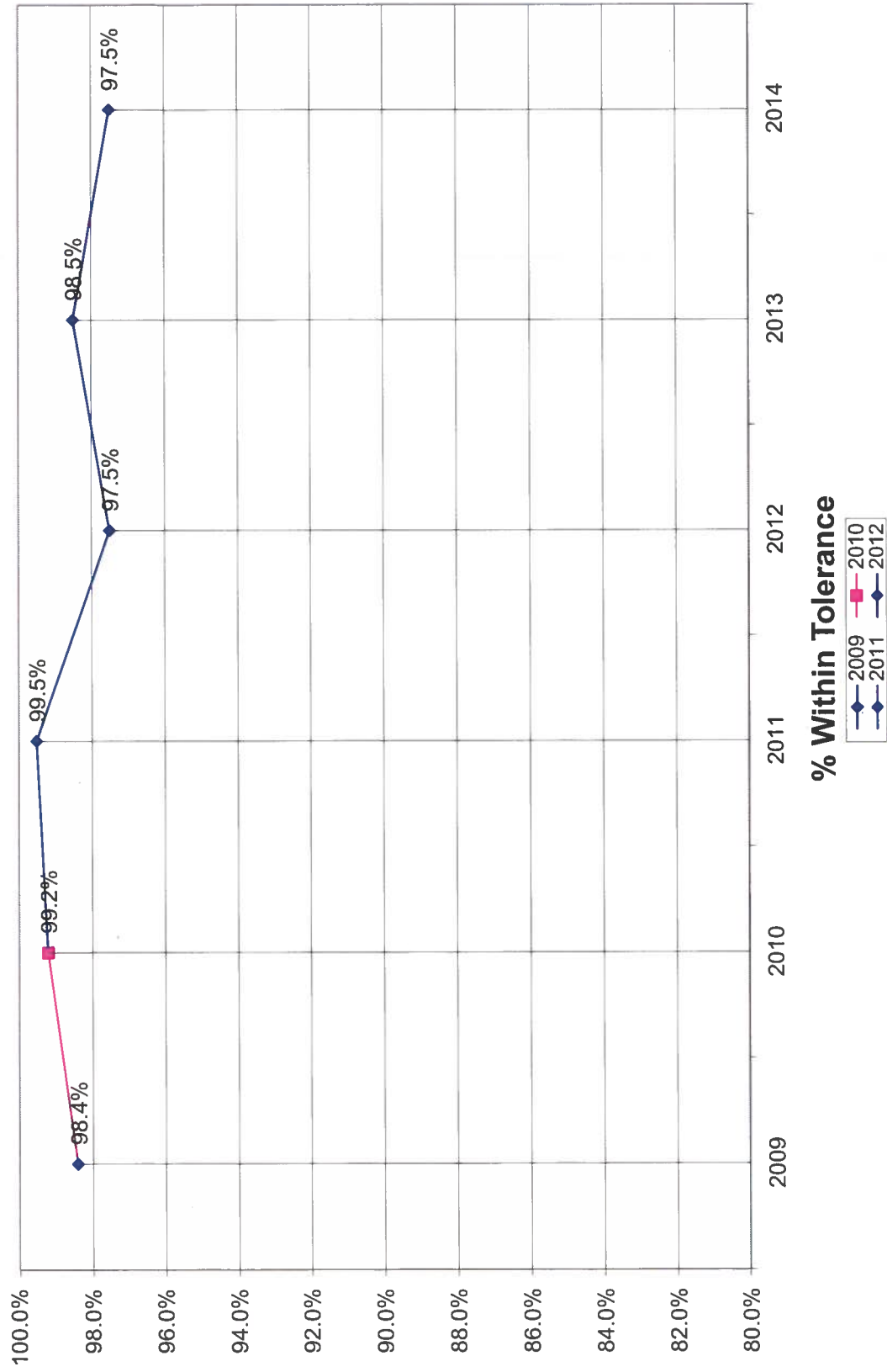
NAM05



# NAM06

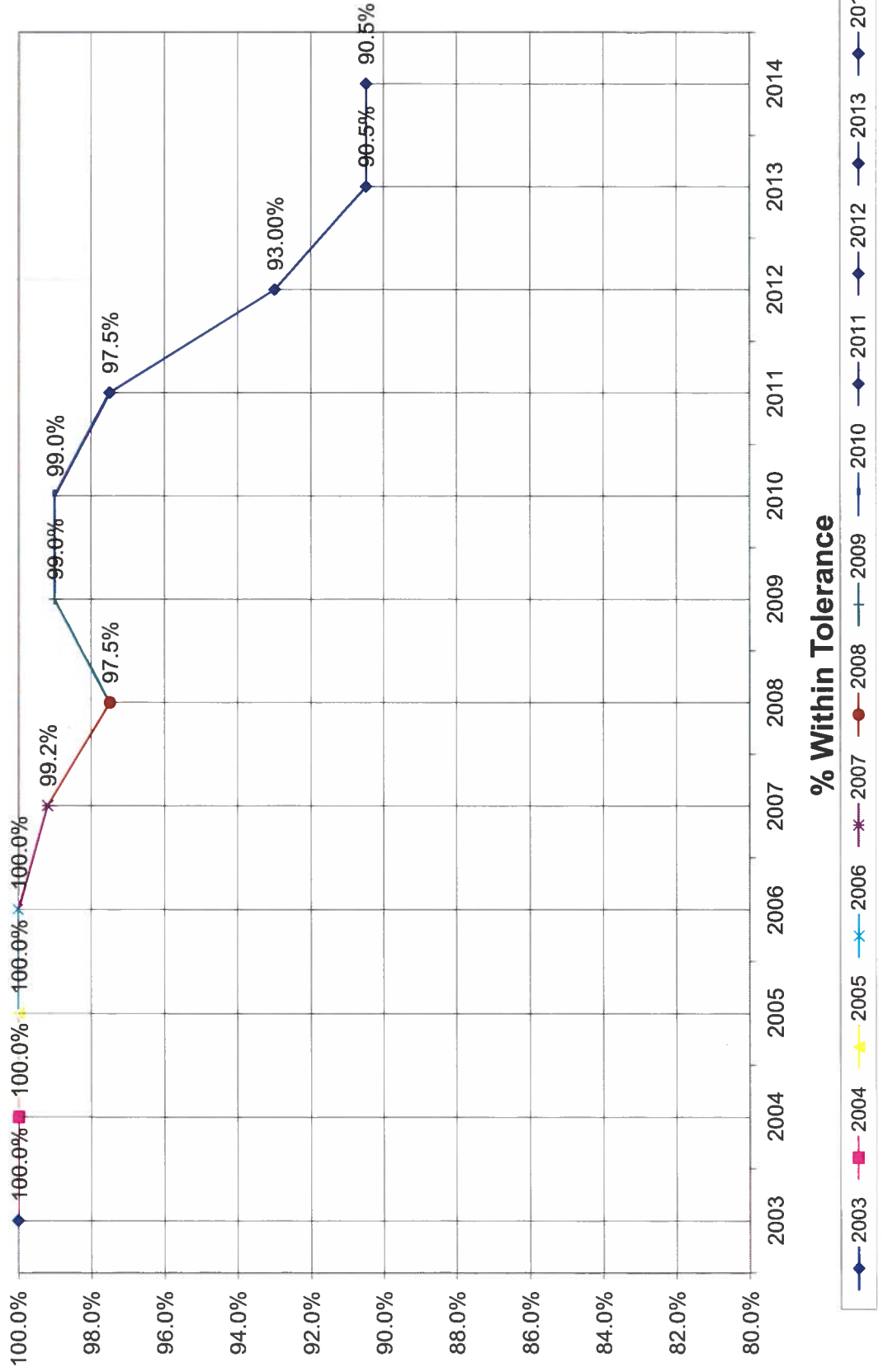


# NAM06A

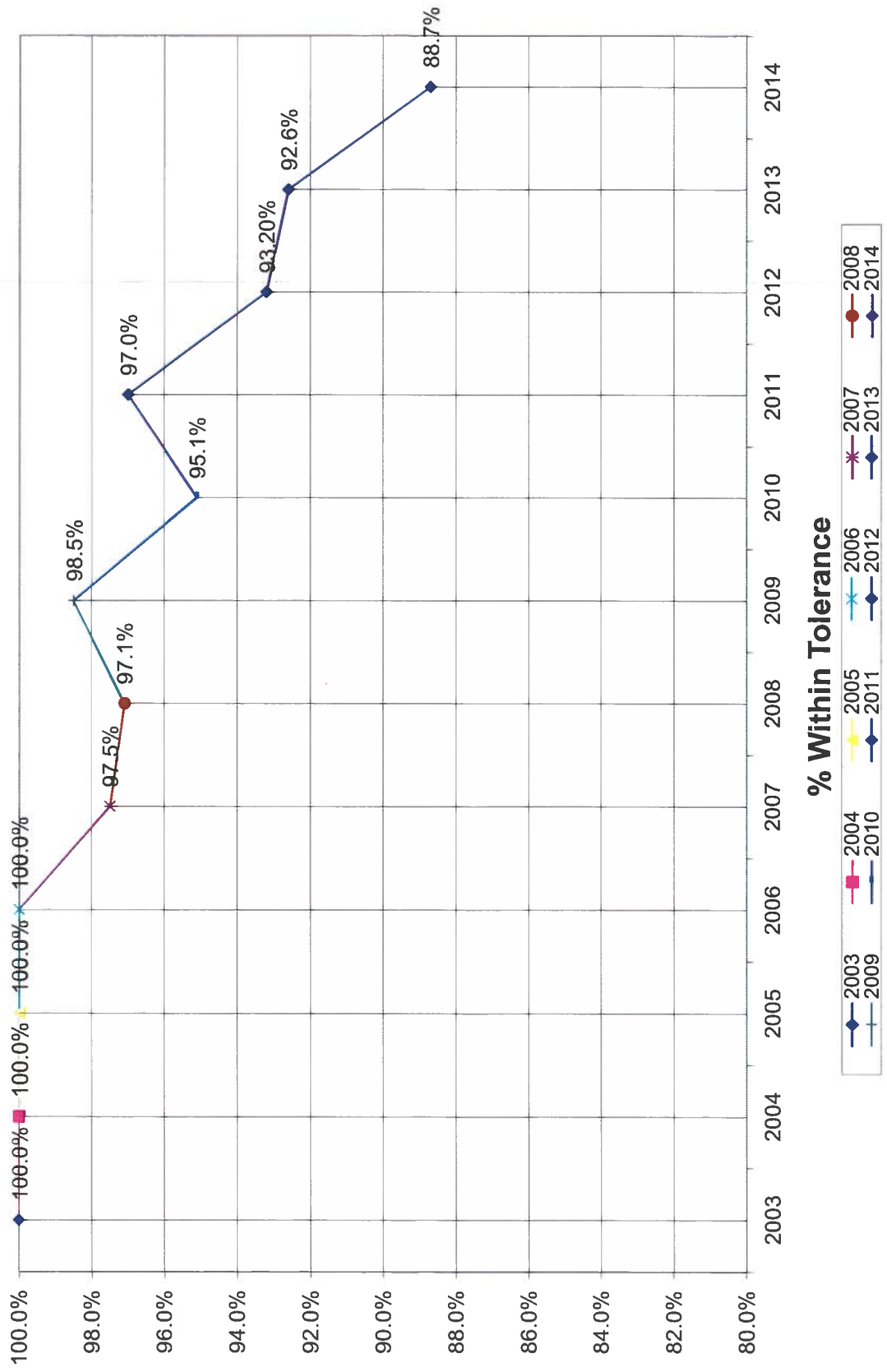




NAM07

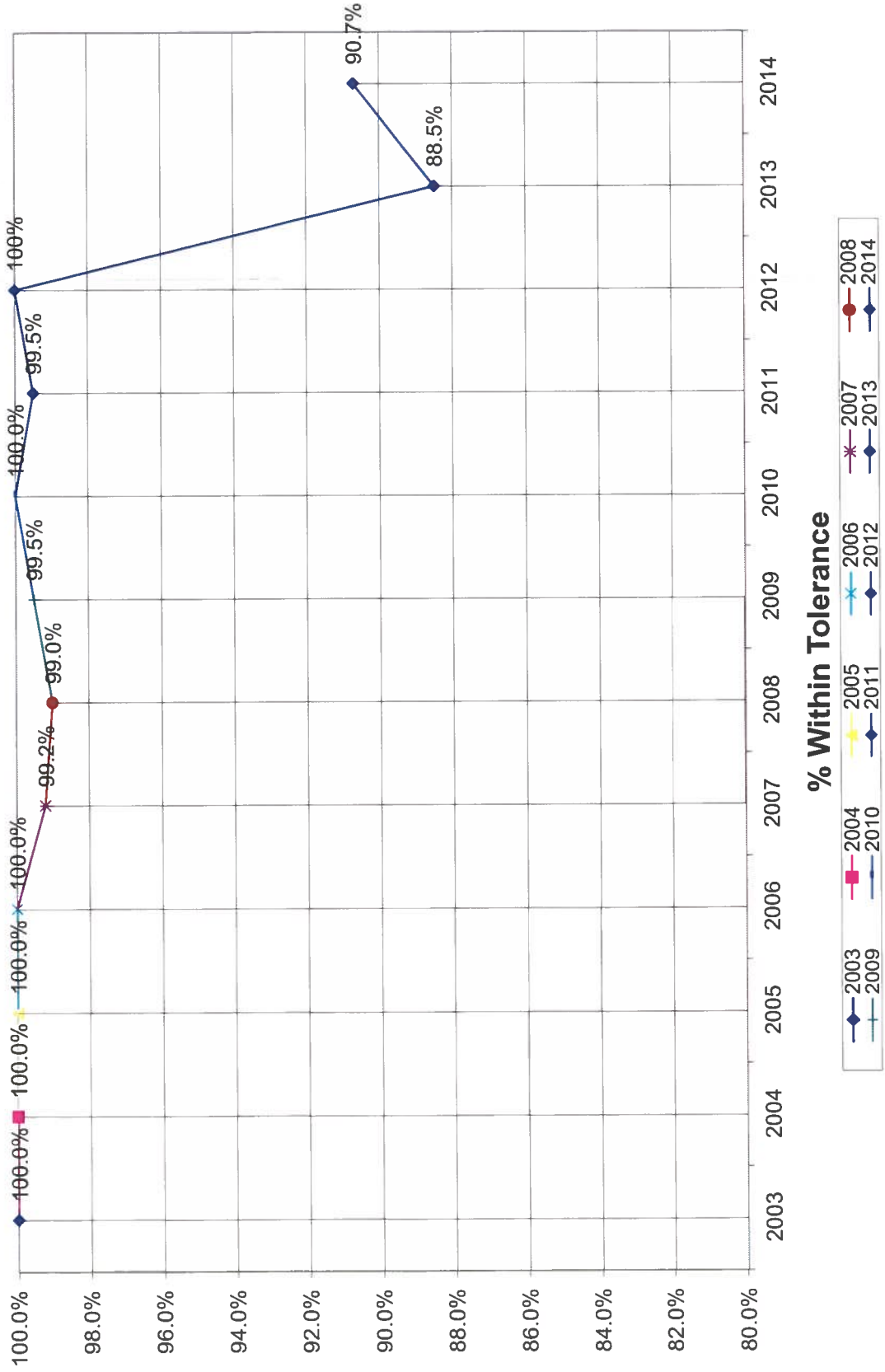


NAM08

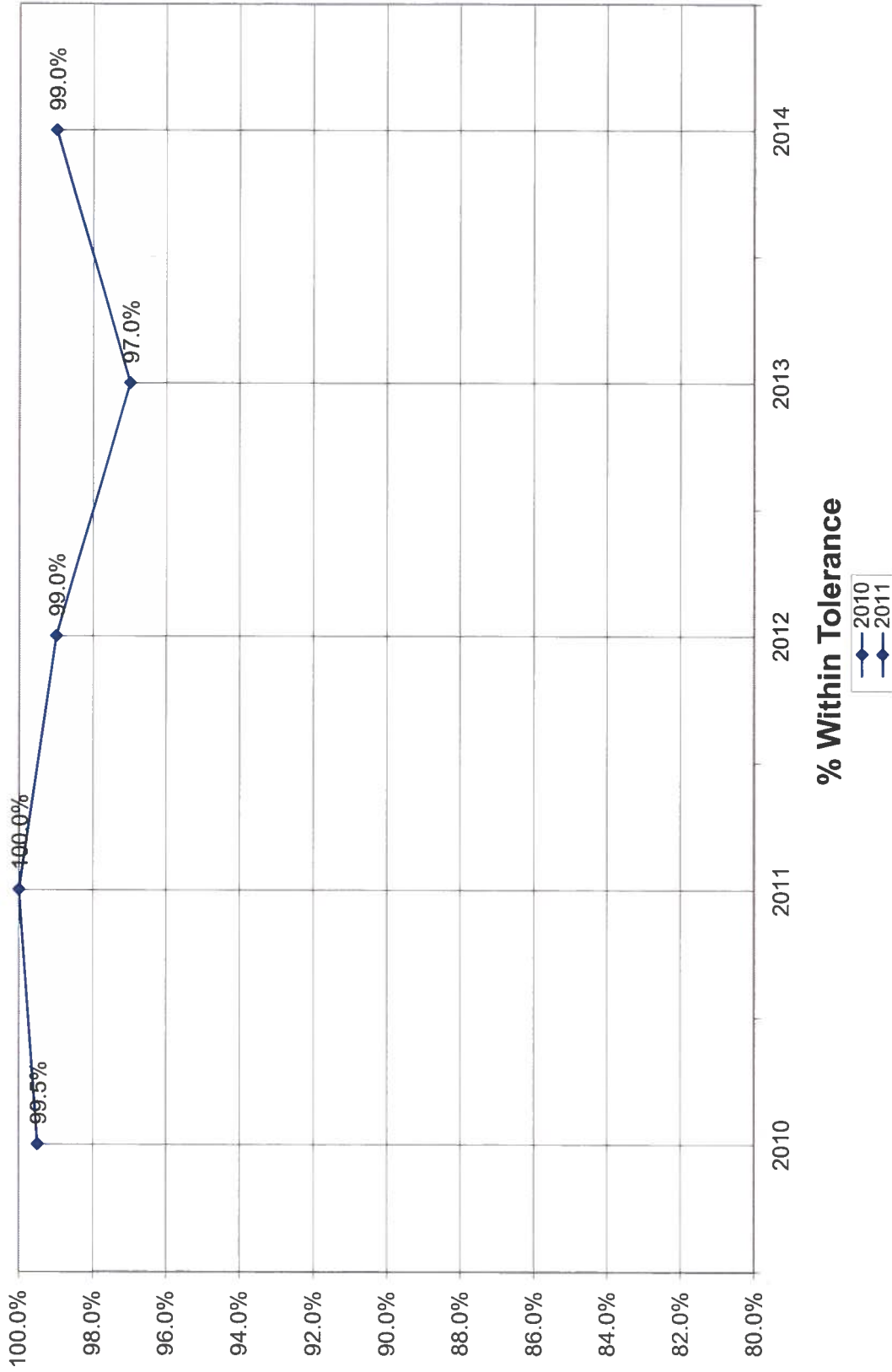


% Within Tolerance

# NAM09



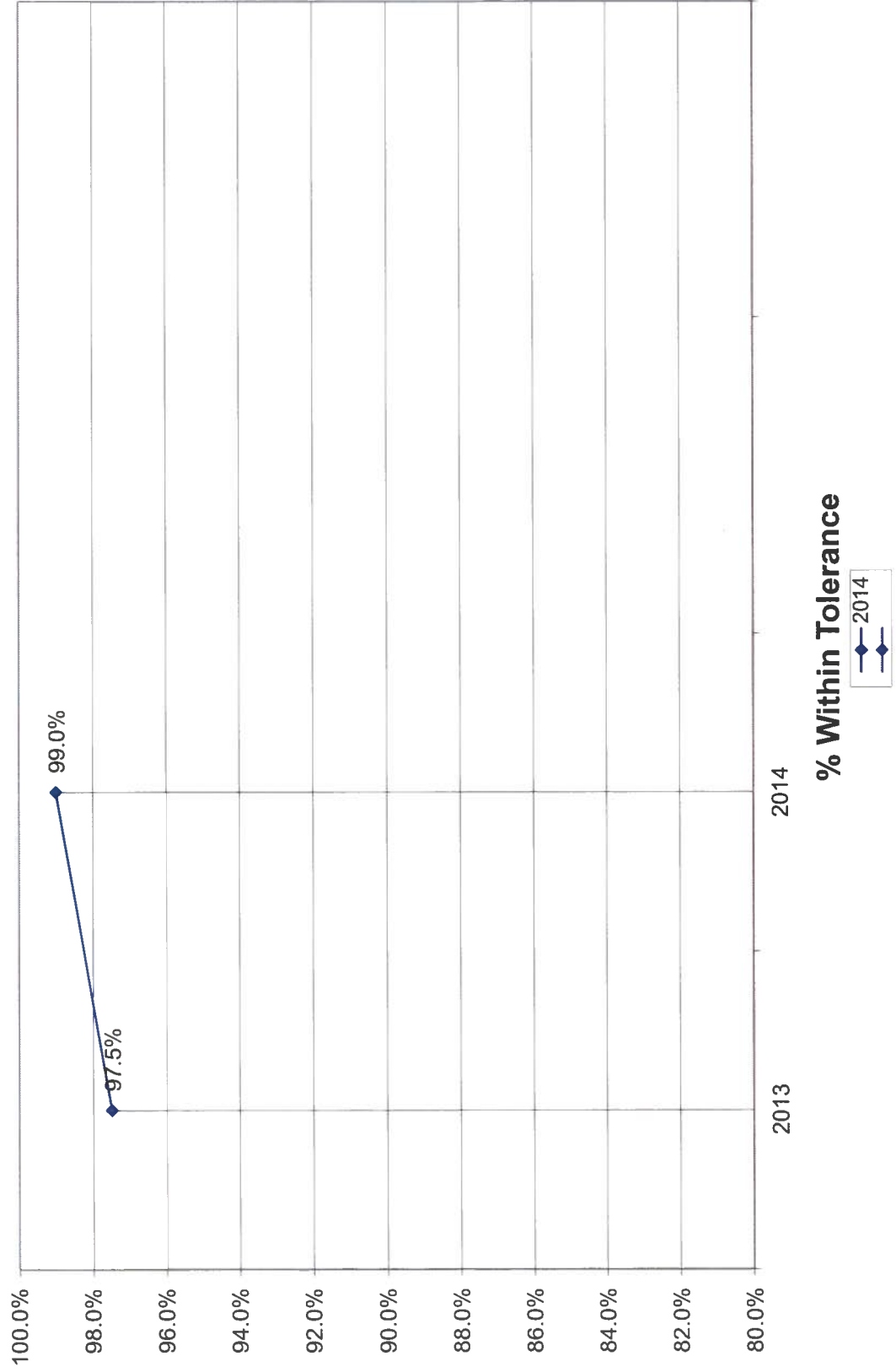
# NAM10



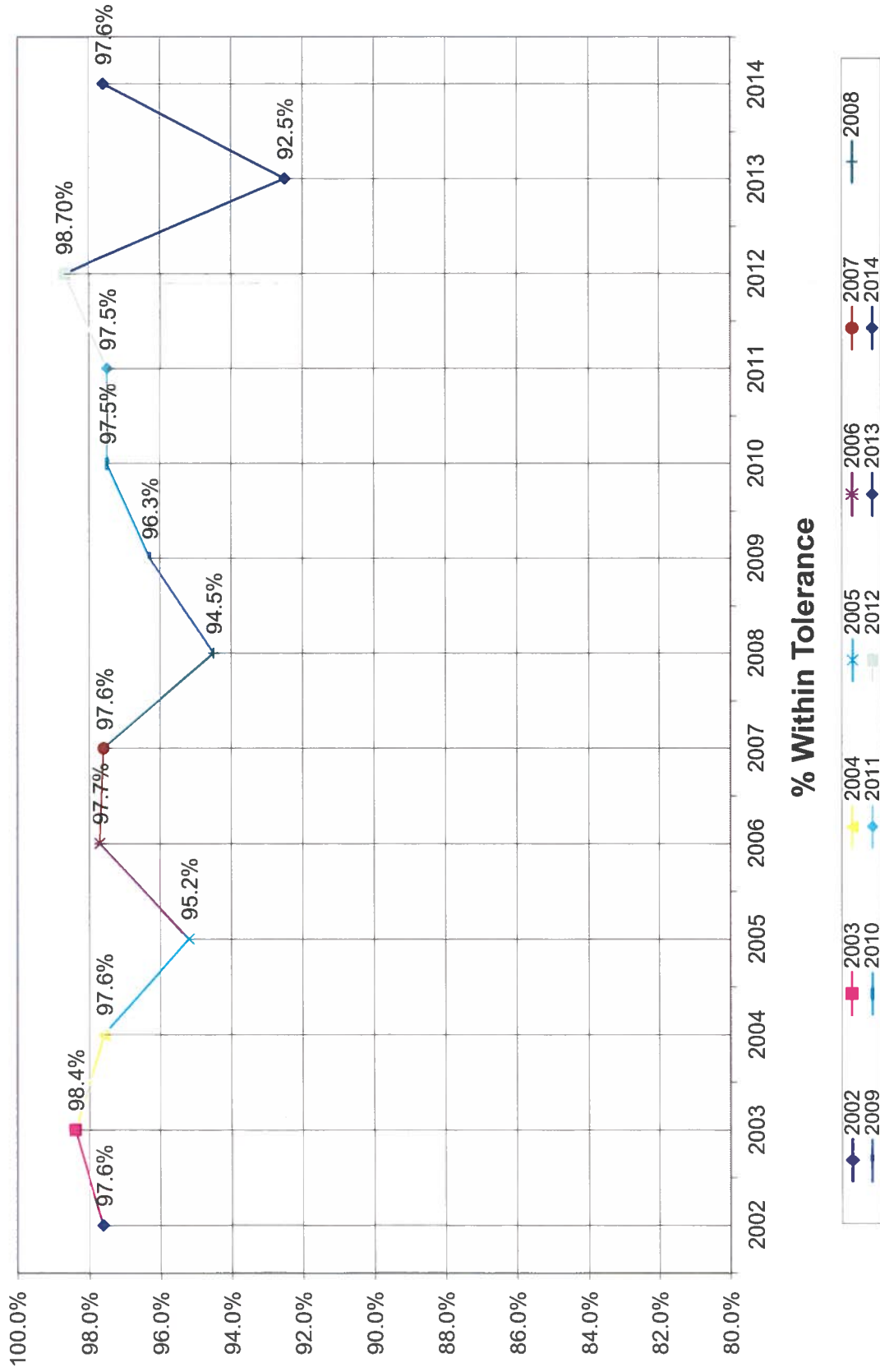
% Within Tolerance

◆ 2010  
◆ 2011

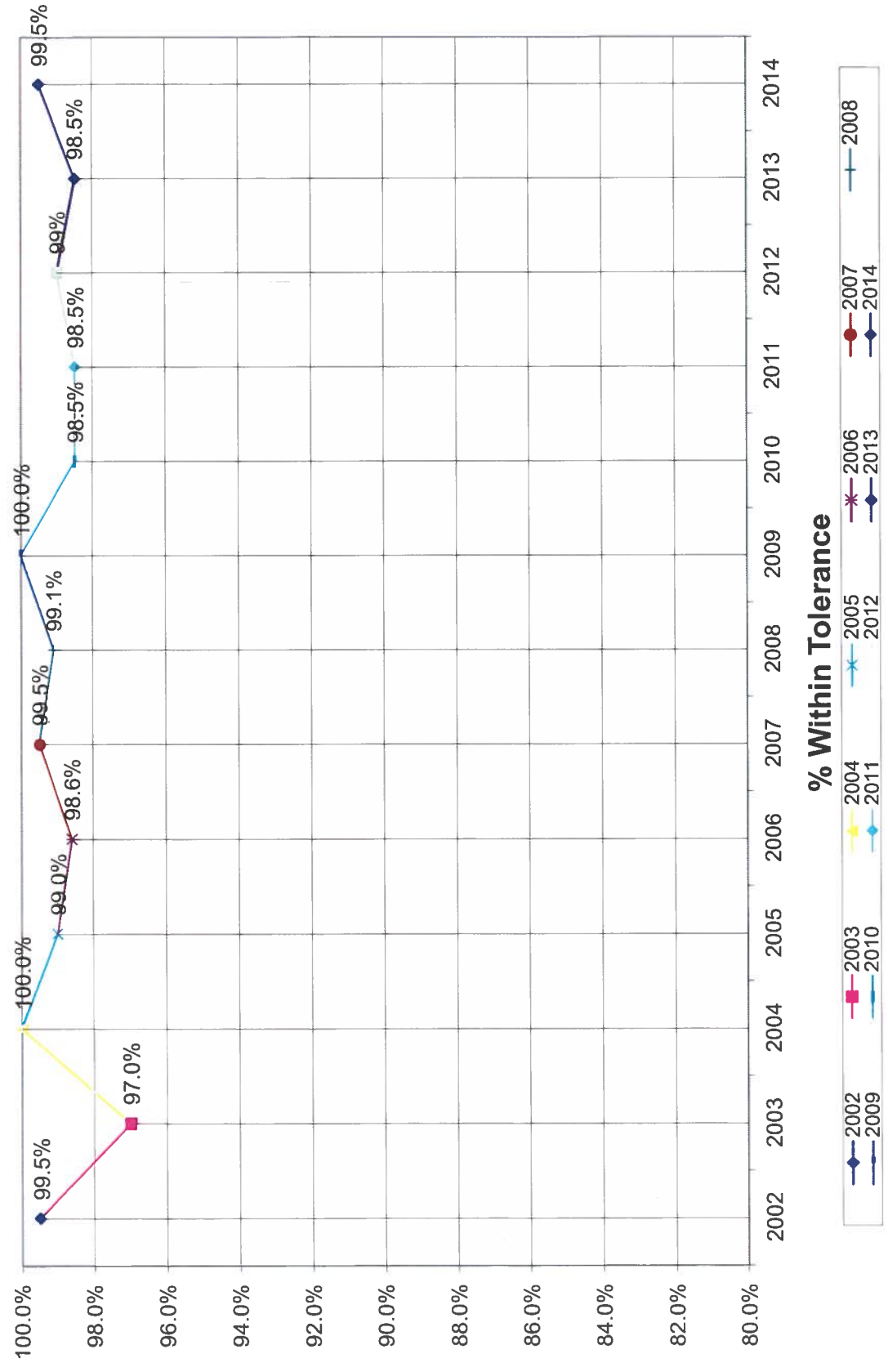
# NAM11



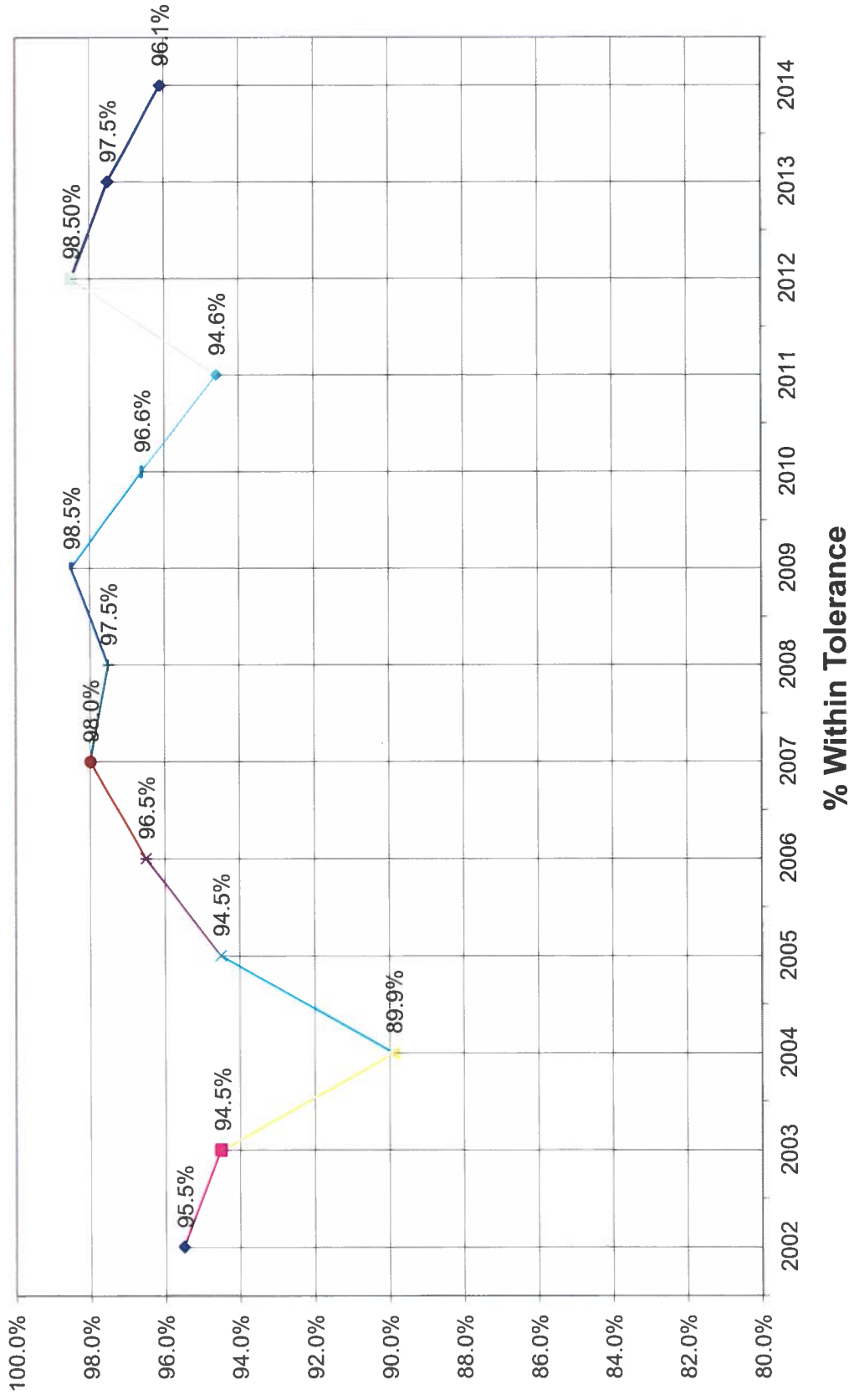
# NLA01



NLA02

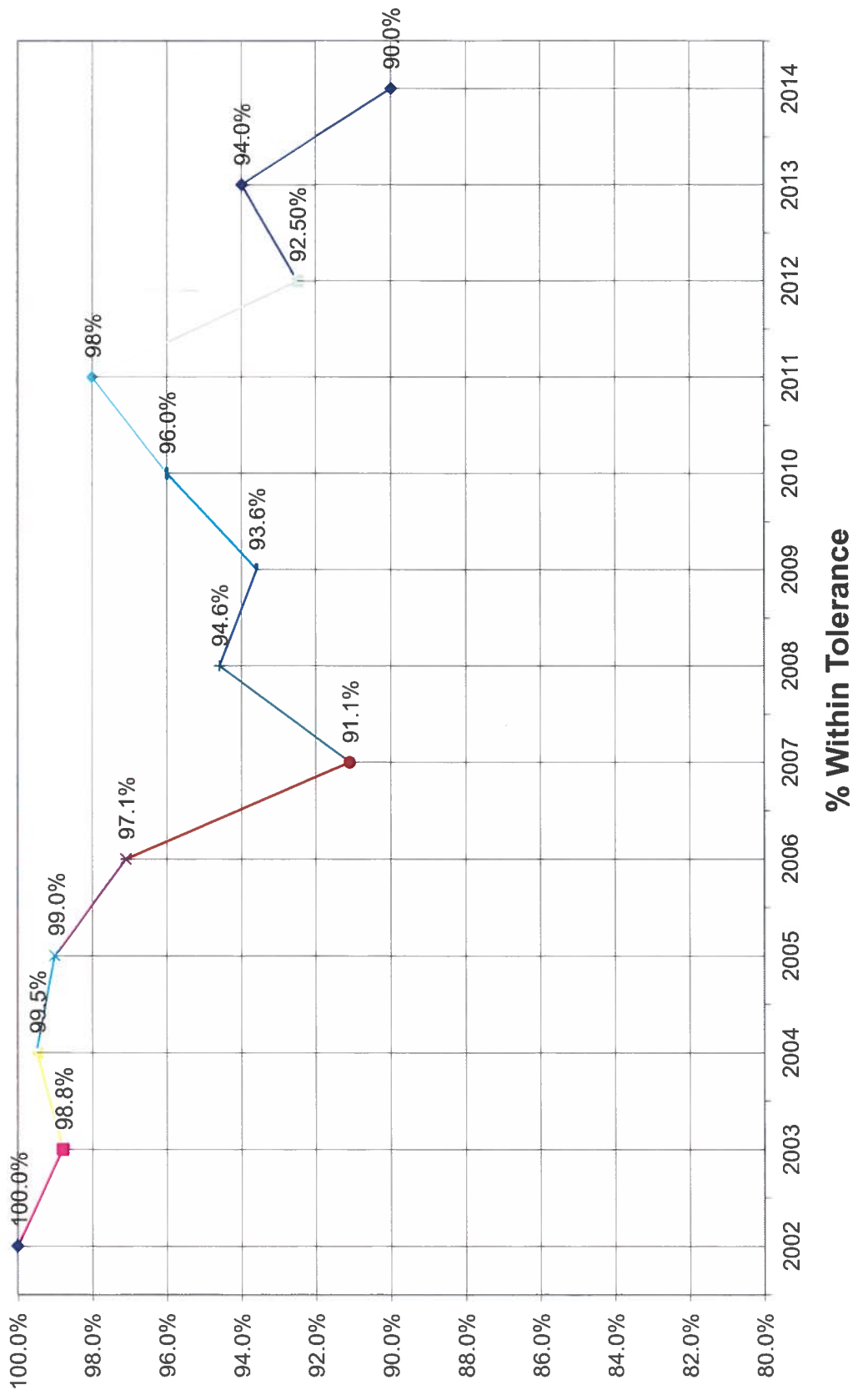


# NRO01

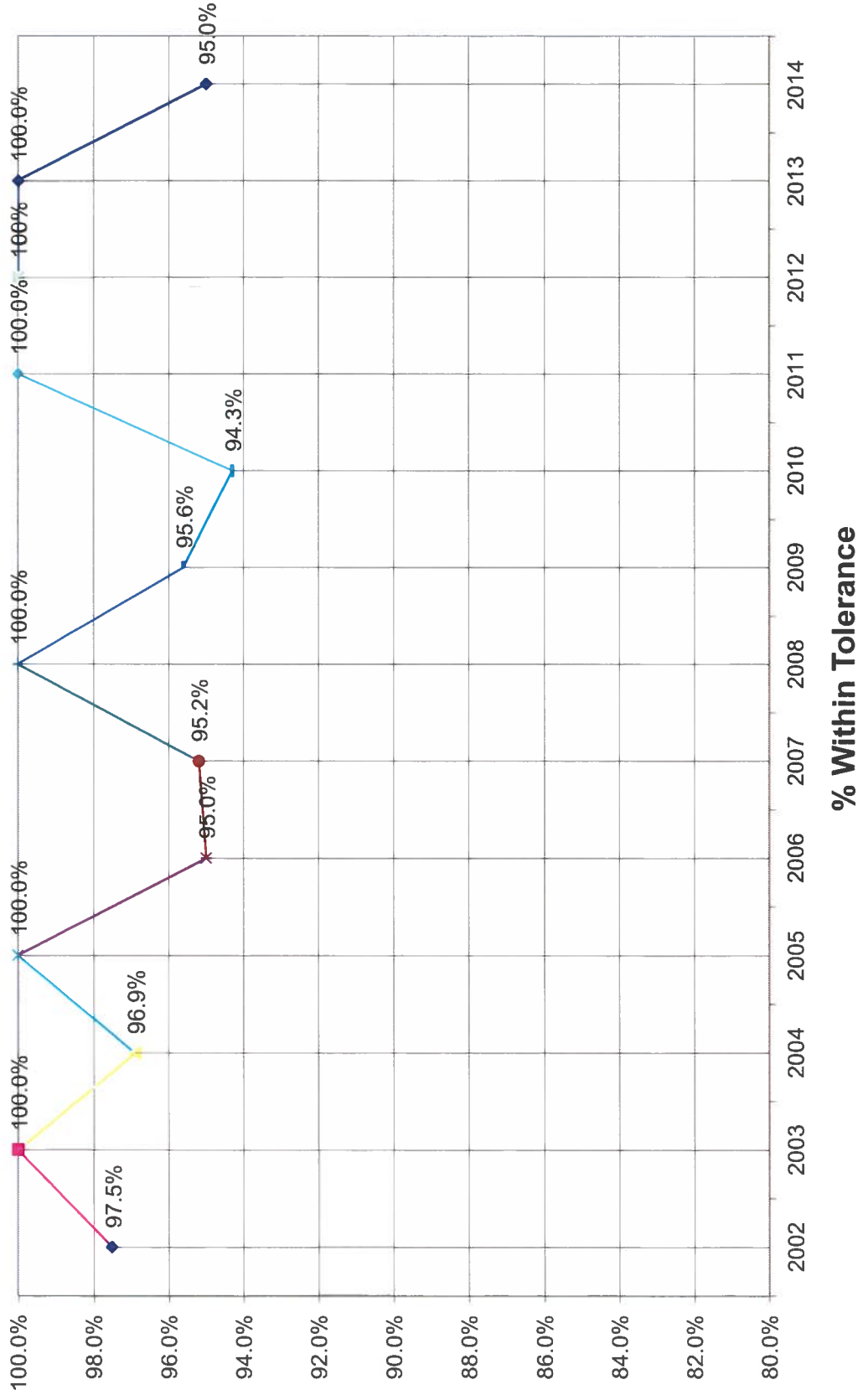




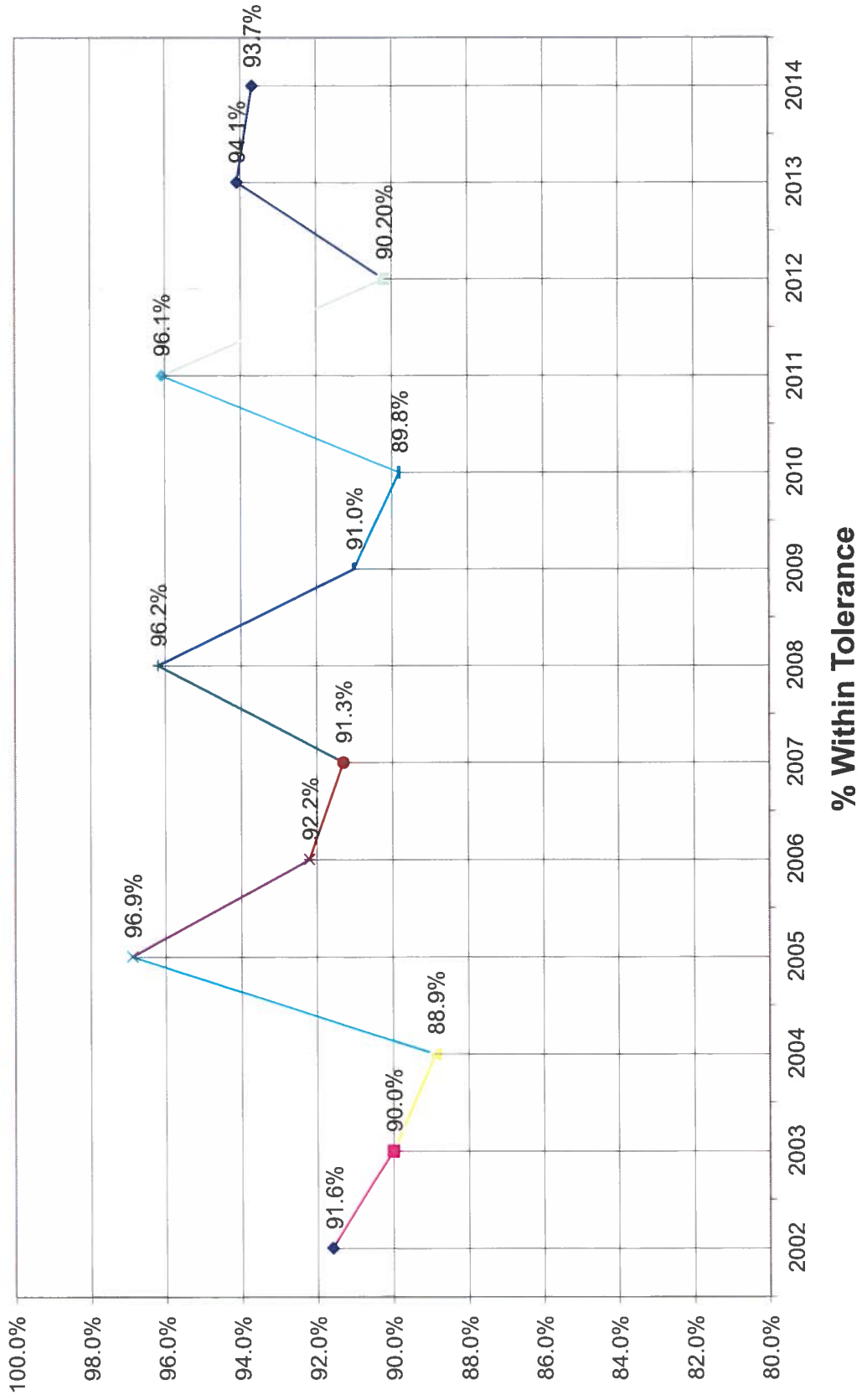
# NRO02



NSP01

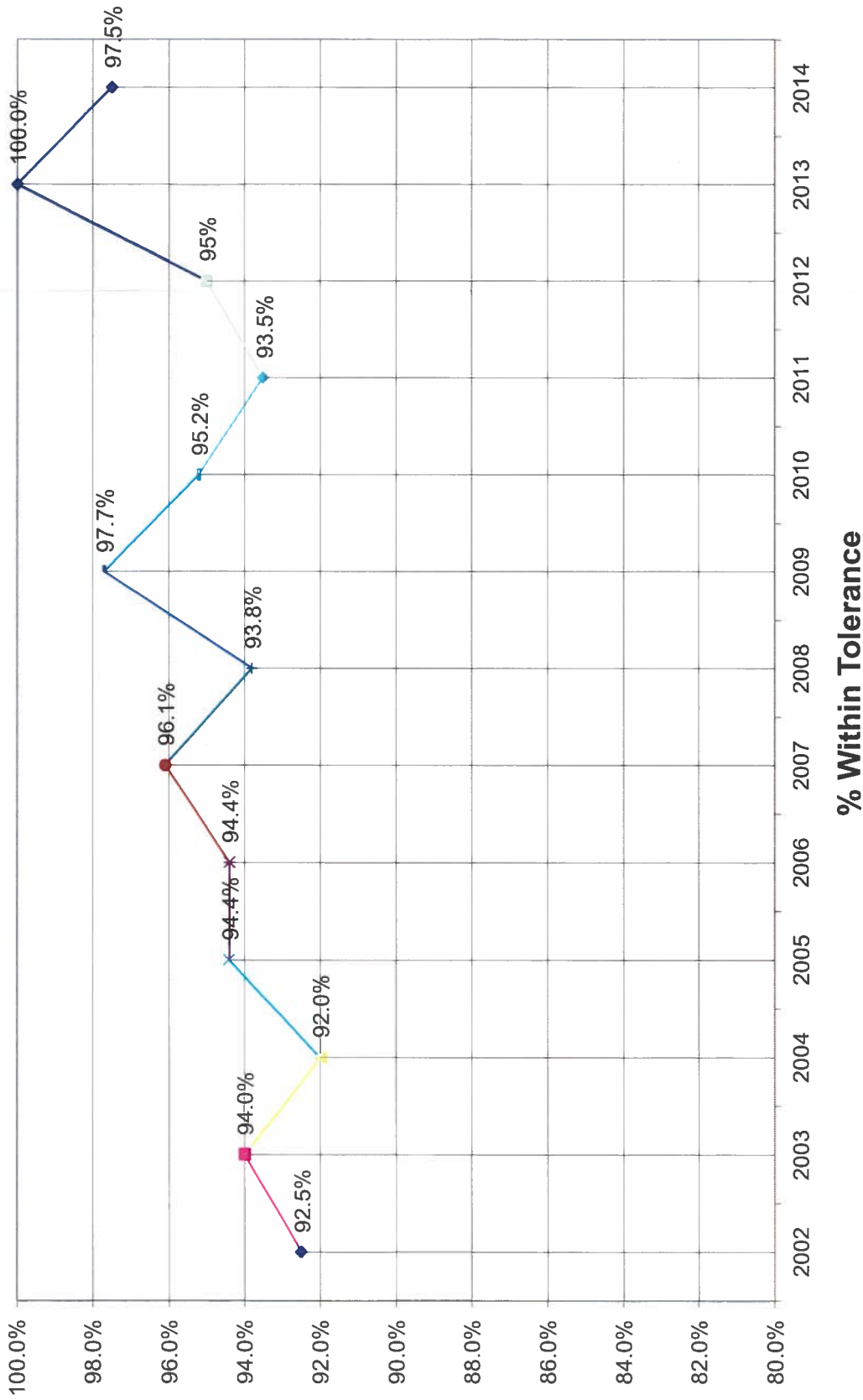


# RAM02

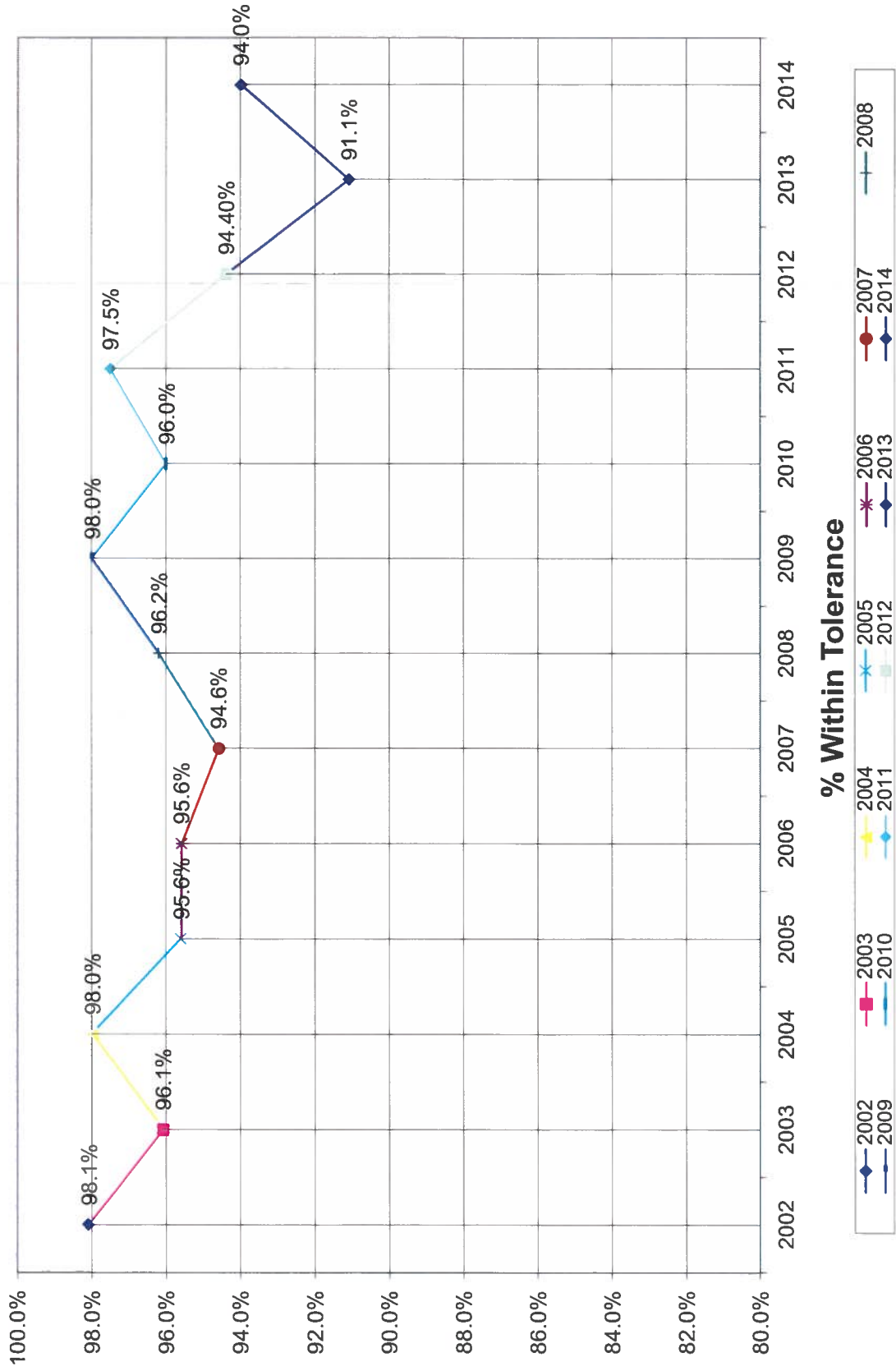


# RAM03

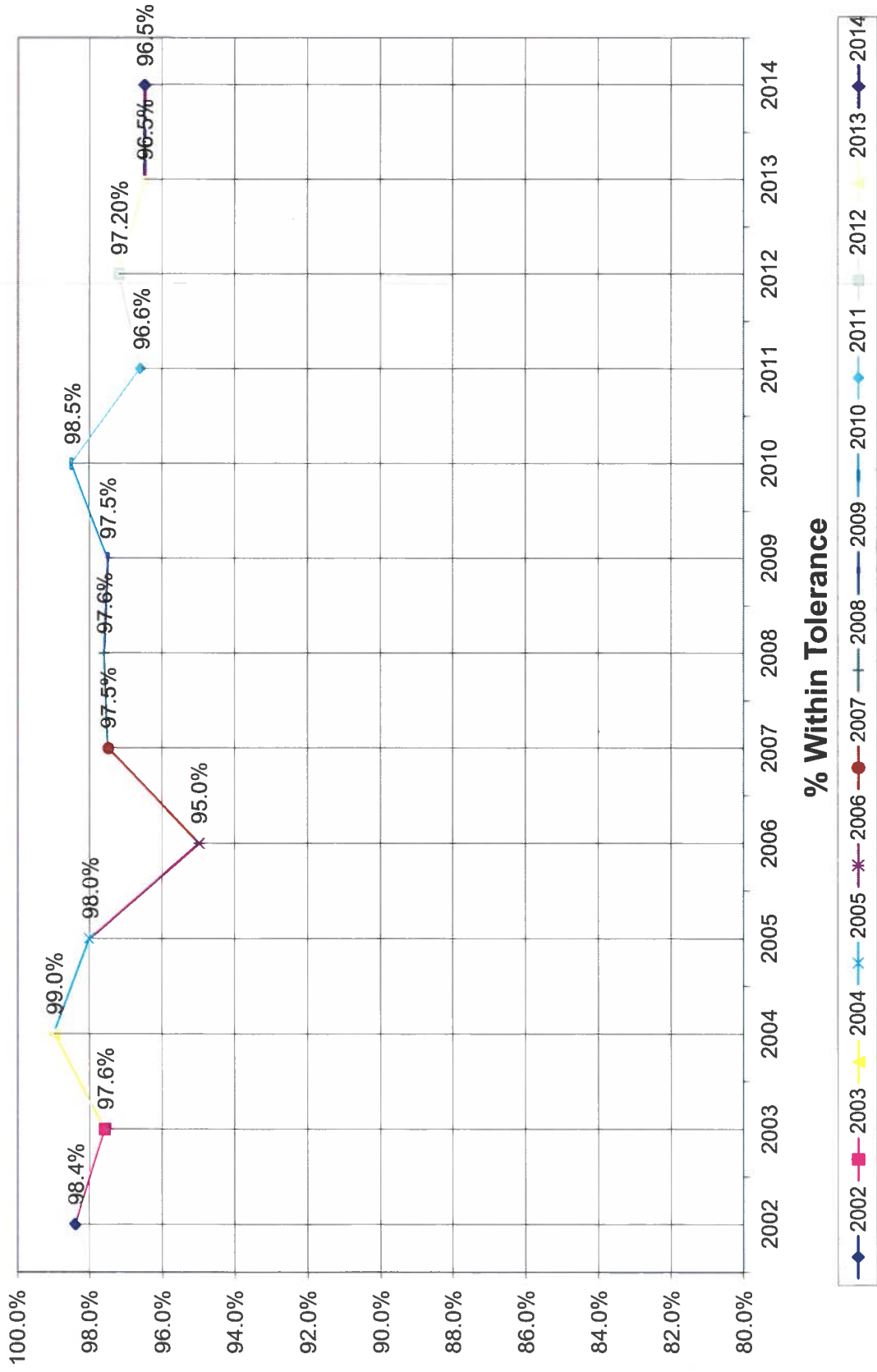
Columbia Gas of Kentucky



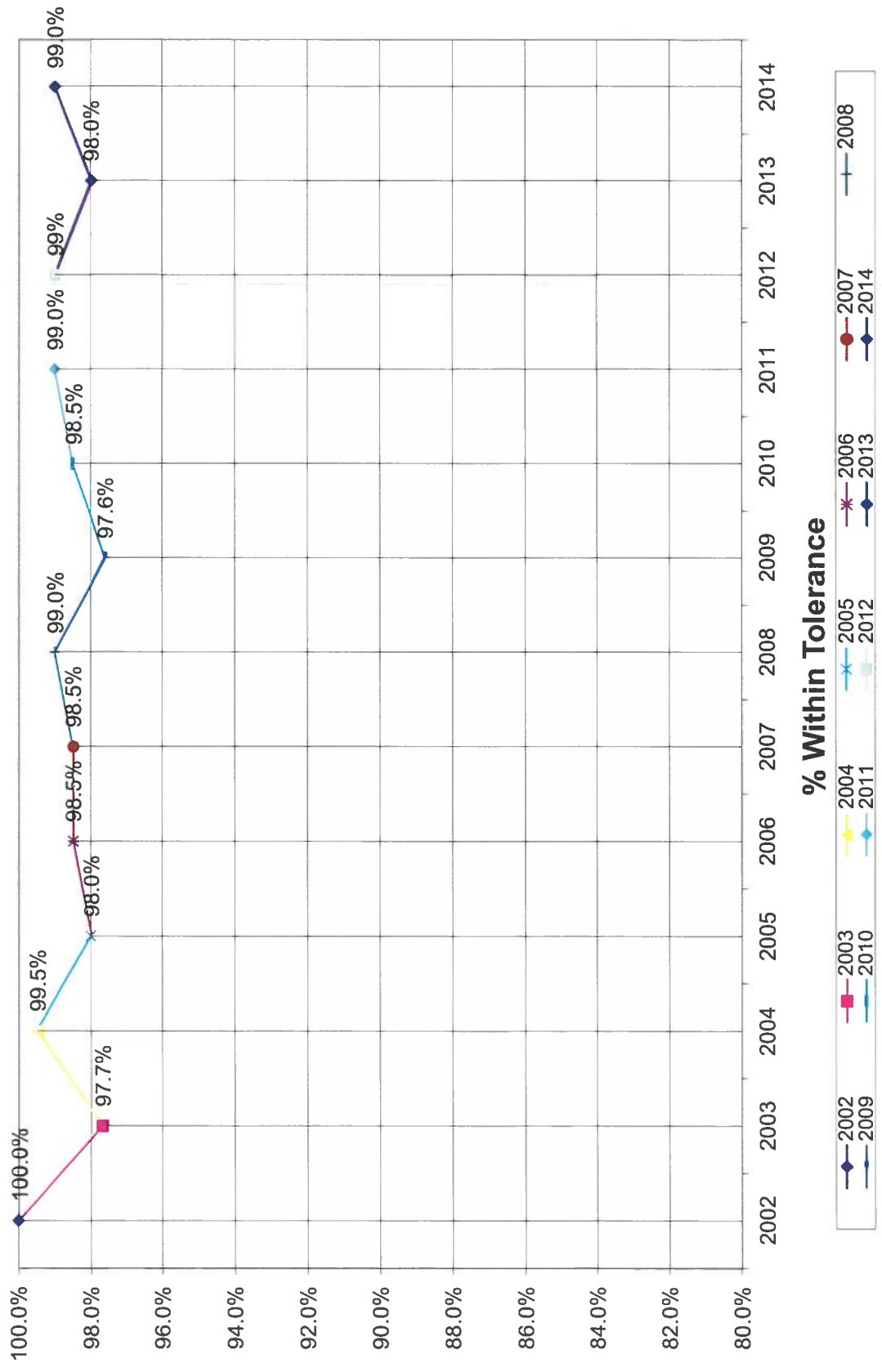
RAM04



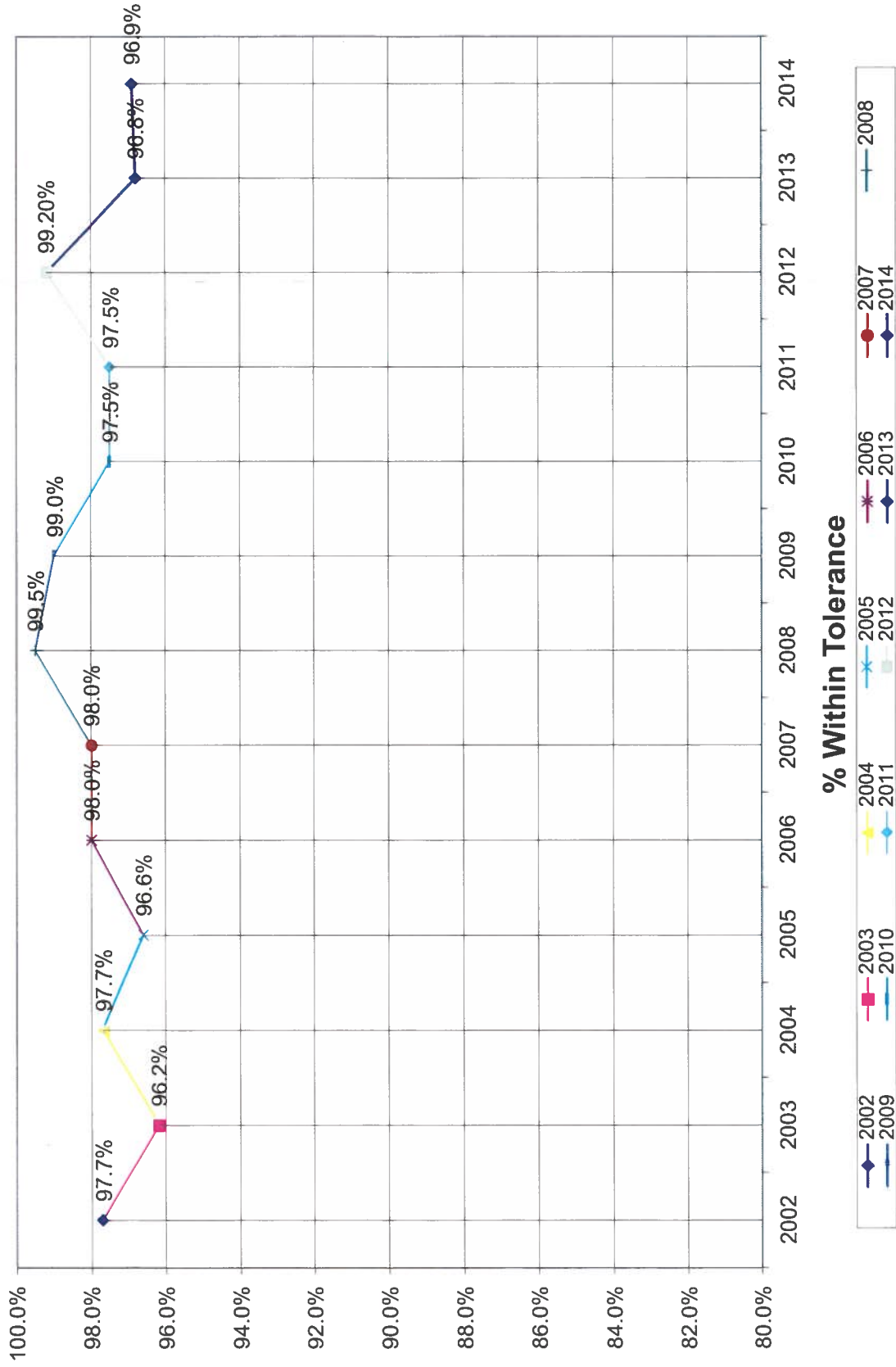
# RAM05



RAM06

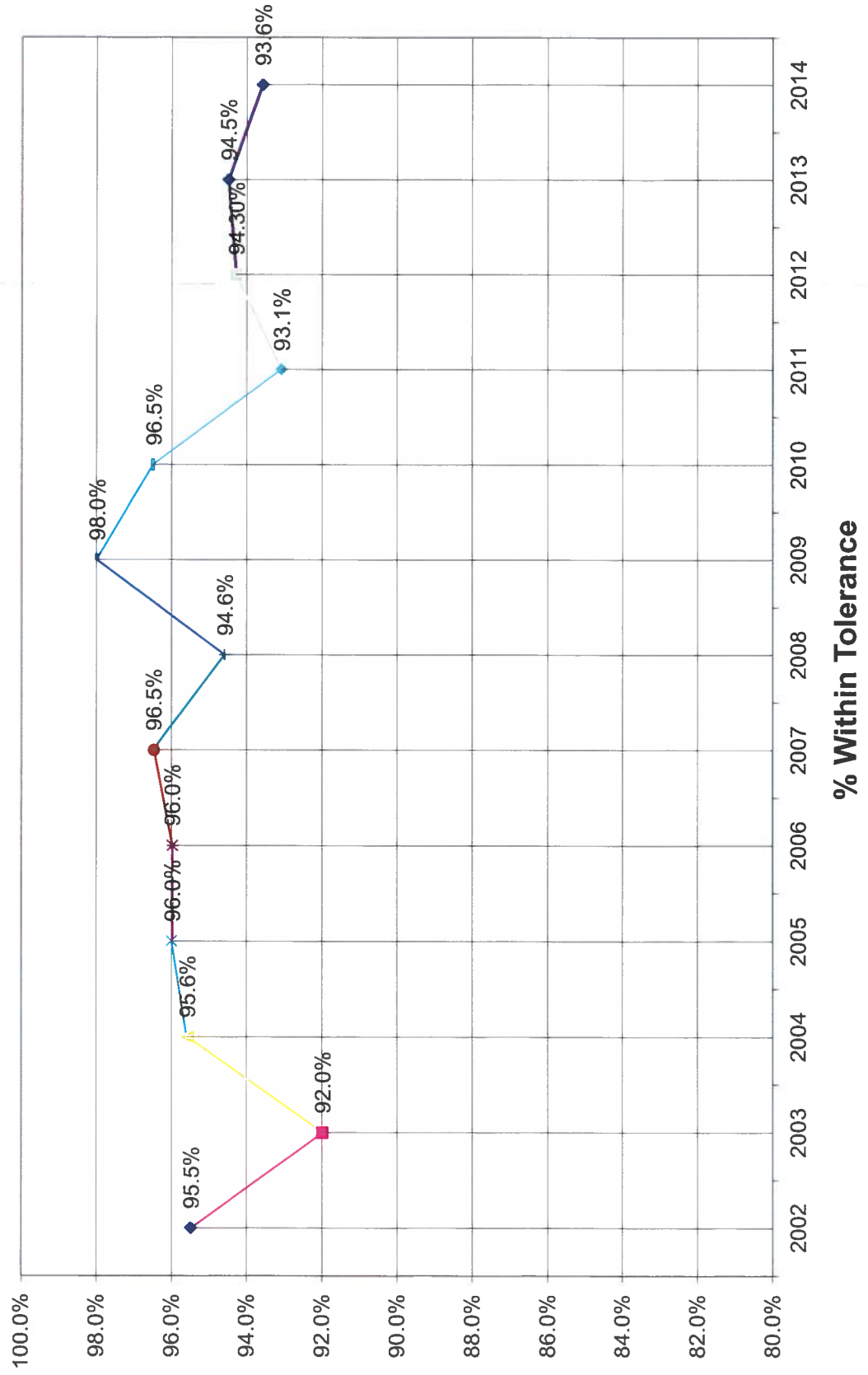


RLA03

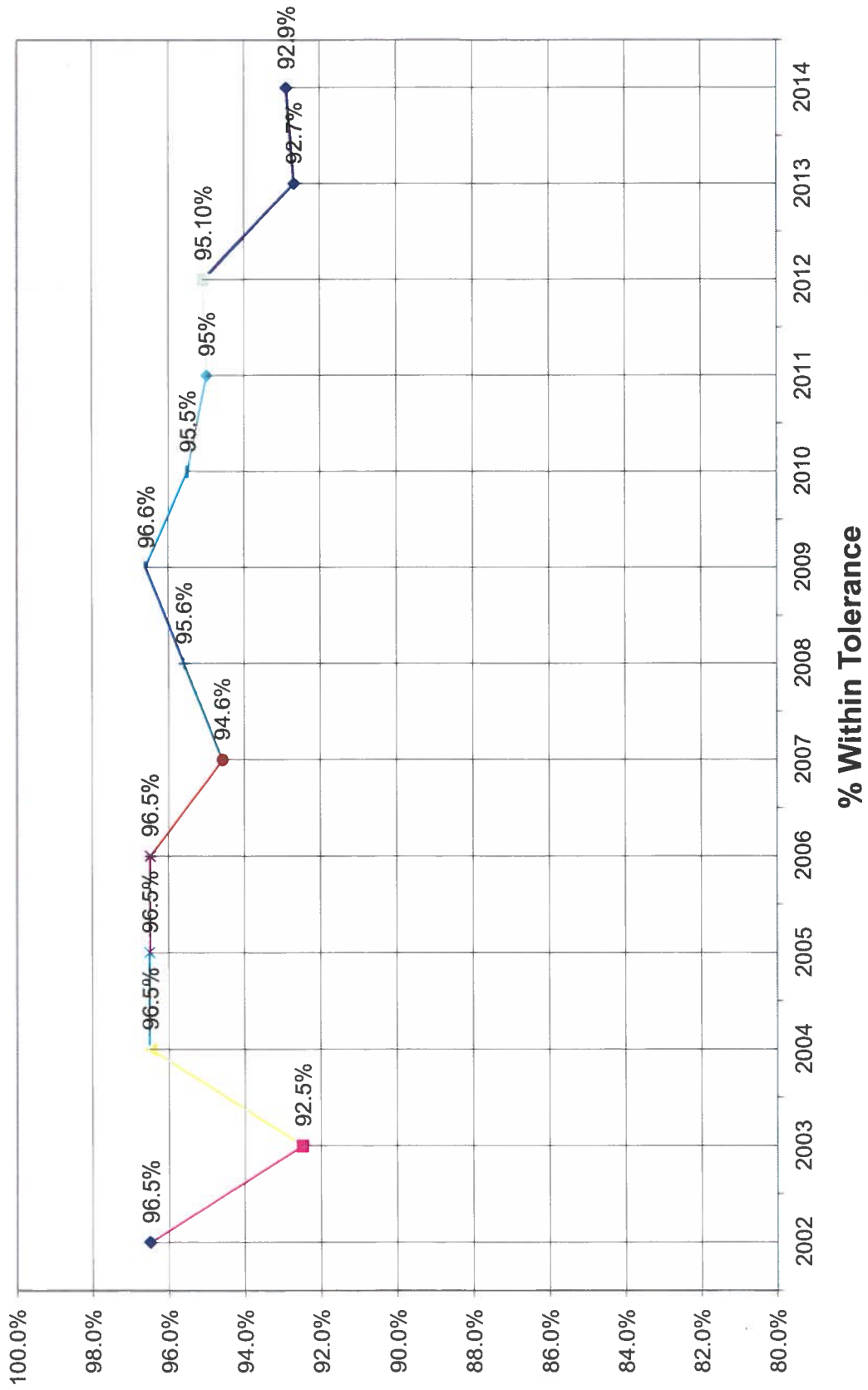




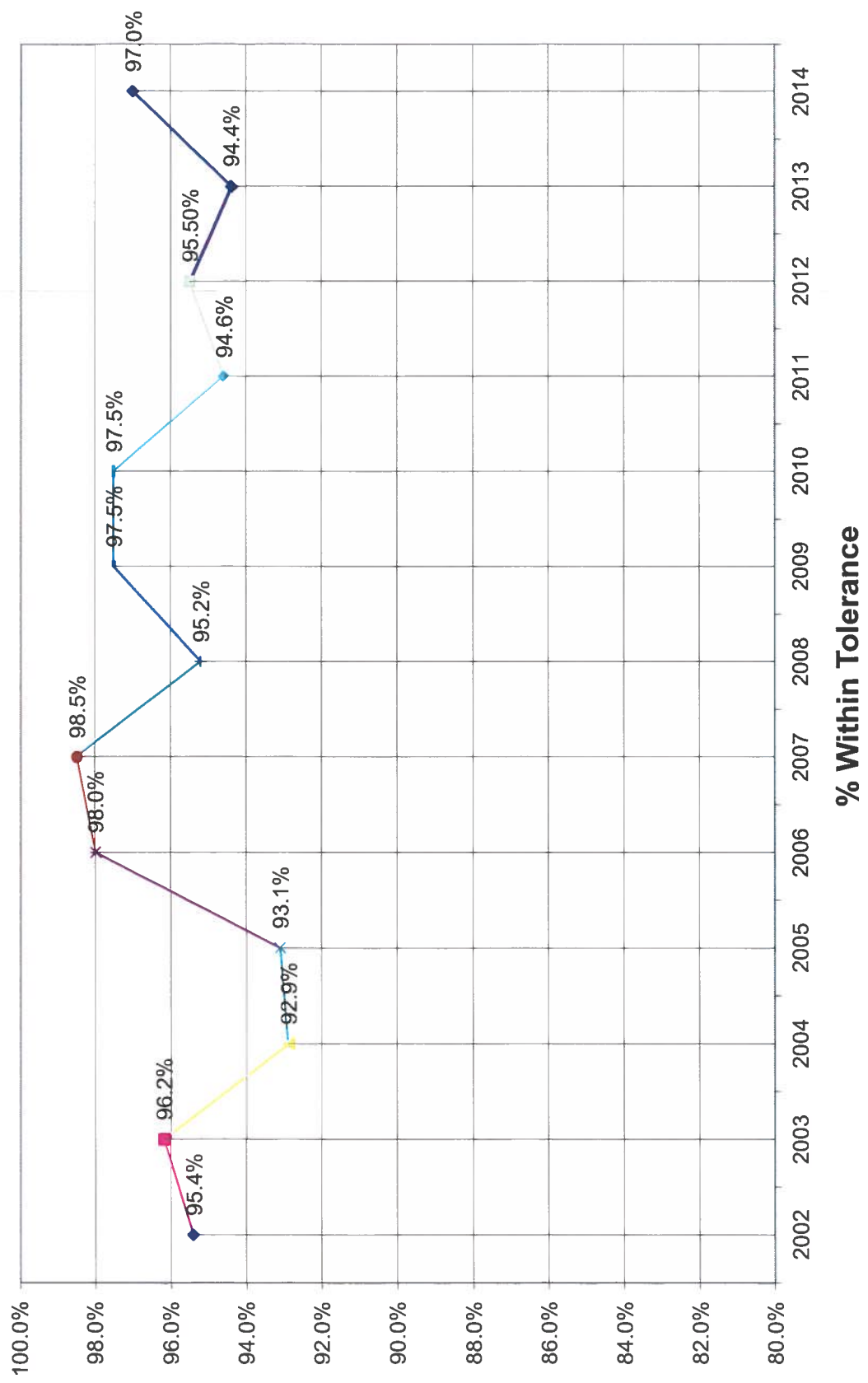
# RRO01



# RRO02

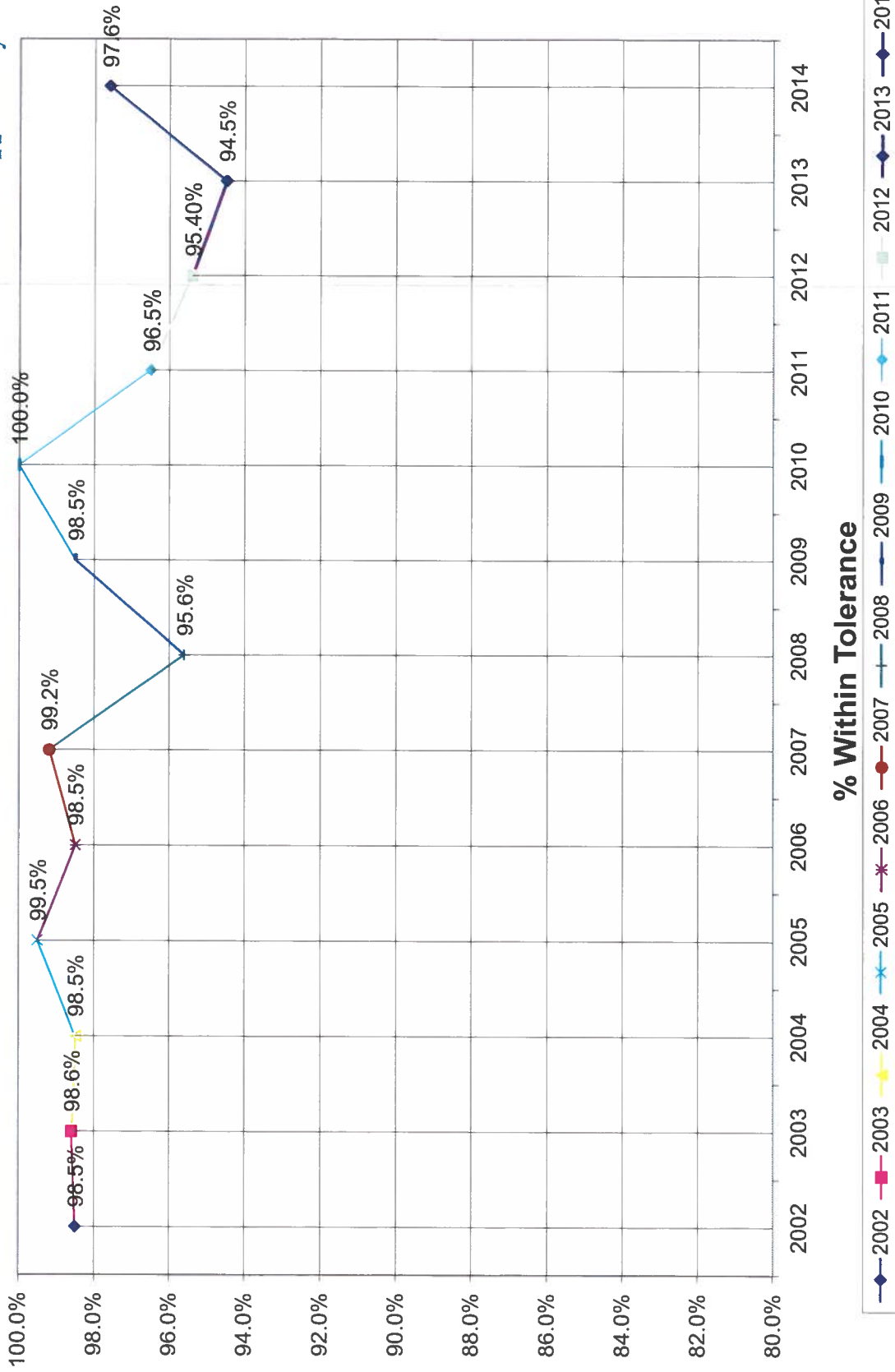


**RRO03**



**% Within Tolerance**

RRO04



% Within Tolerance

# RSP01

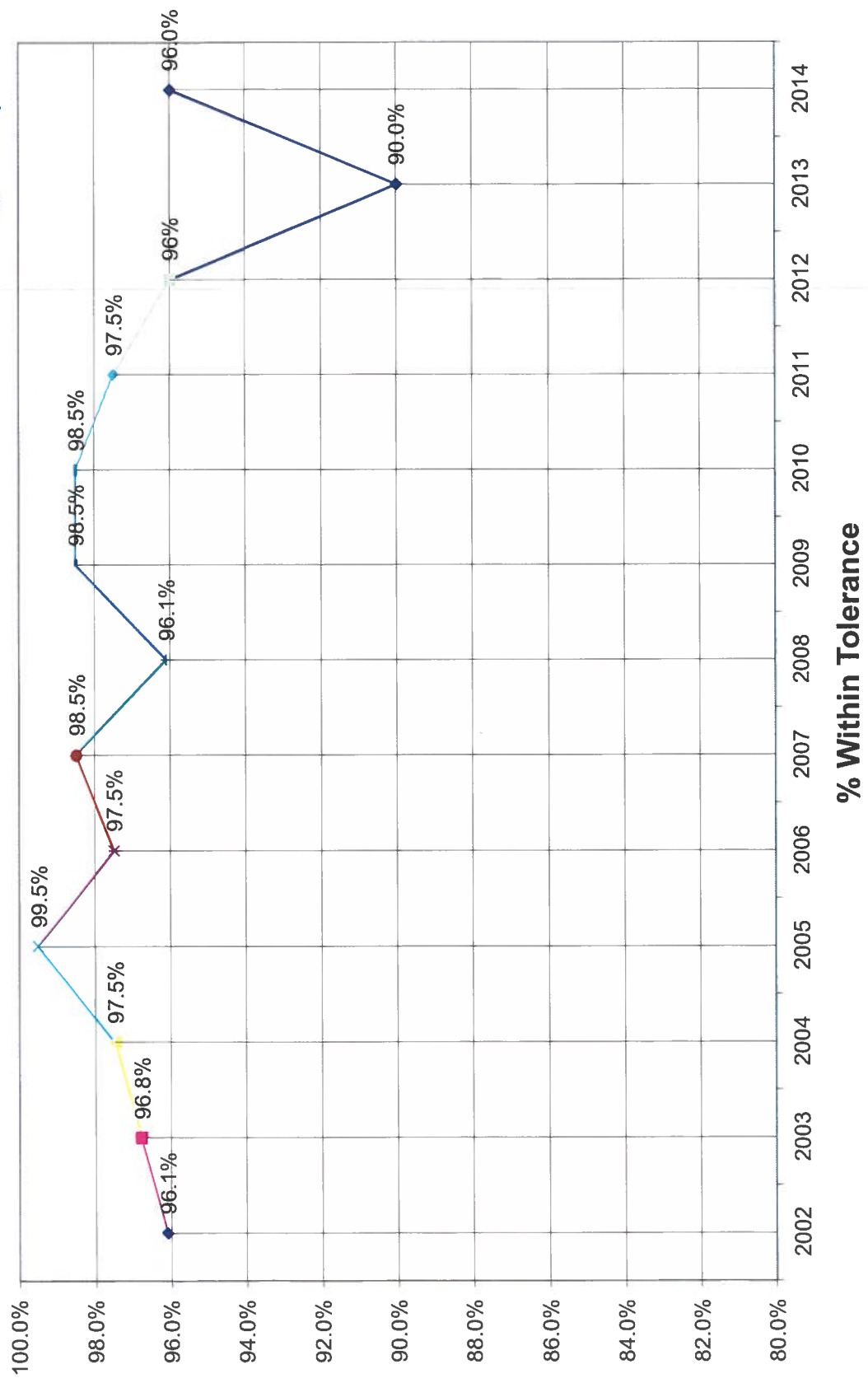


EXHIBIT E

**PERCENTAGE OF LARGE VOLUME METER  
ACCURACY BY FAMILY**

**Exhibit E - represents the percentage of Large Volume meters sampled in 2014 that were within the +/- 2% rate, identified by homogenous group. We also show previous results of meter families sampled in prior years.**

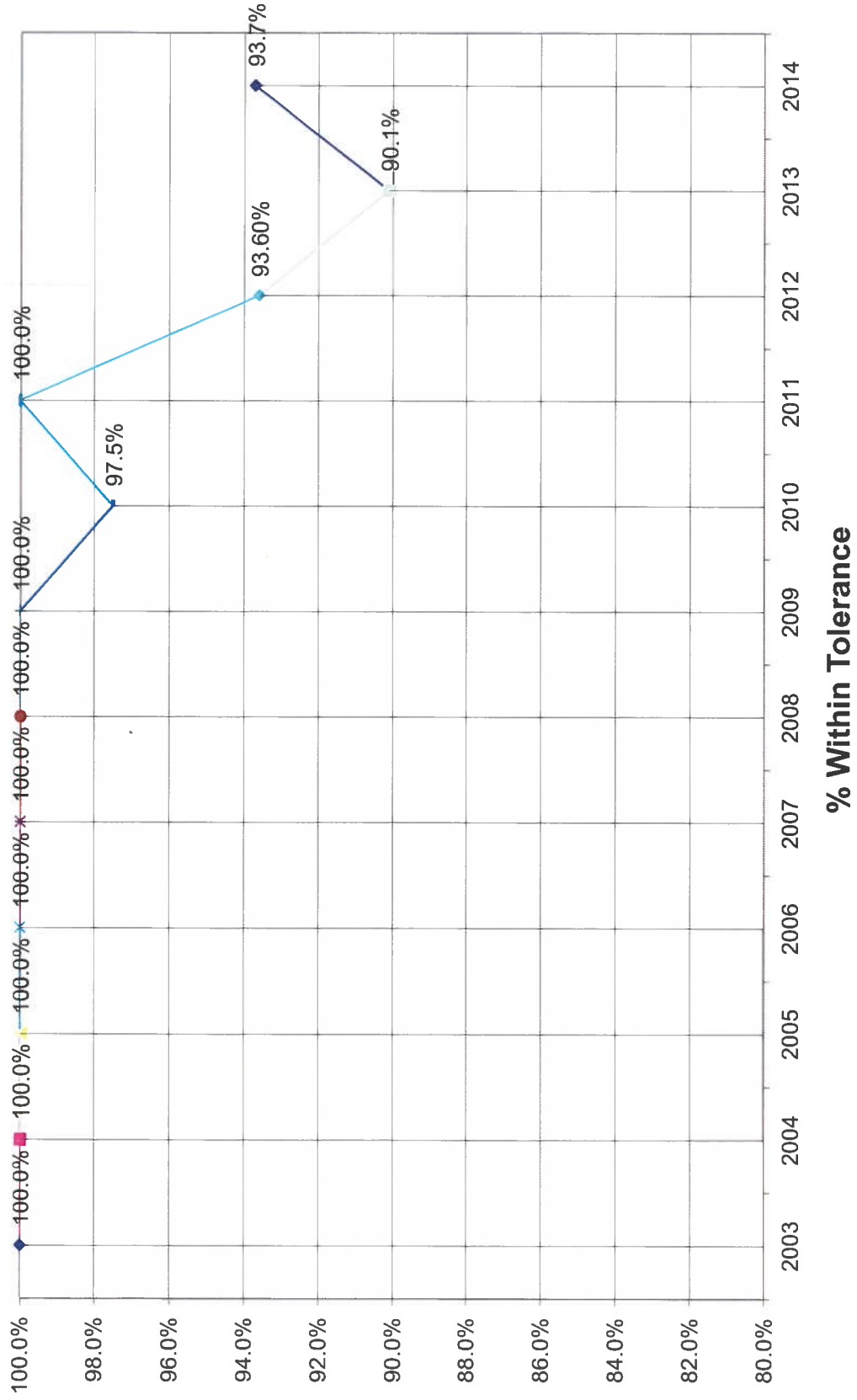
**BRAM01 = Repaired American meters installed between 2004 & 2012**

**BRRO01 = Repaired Rockwell meters installed between 2004 & 2012**

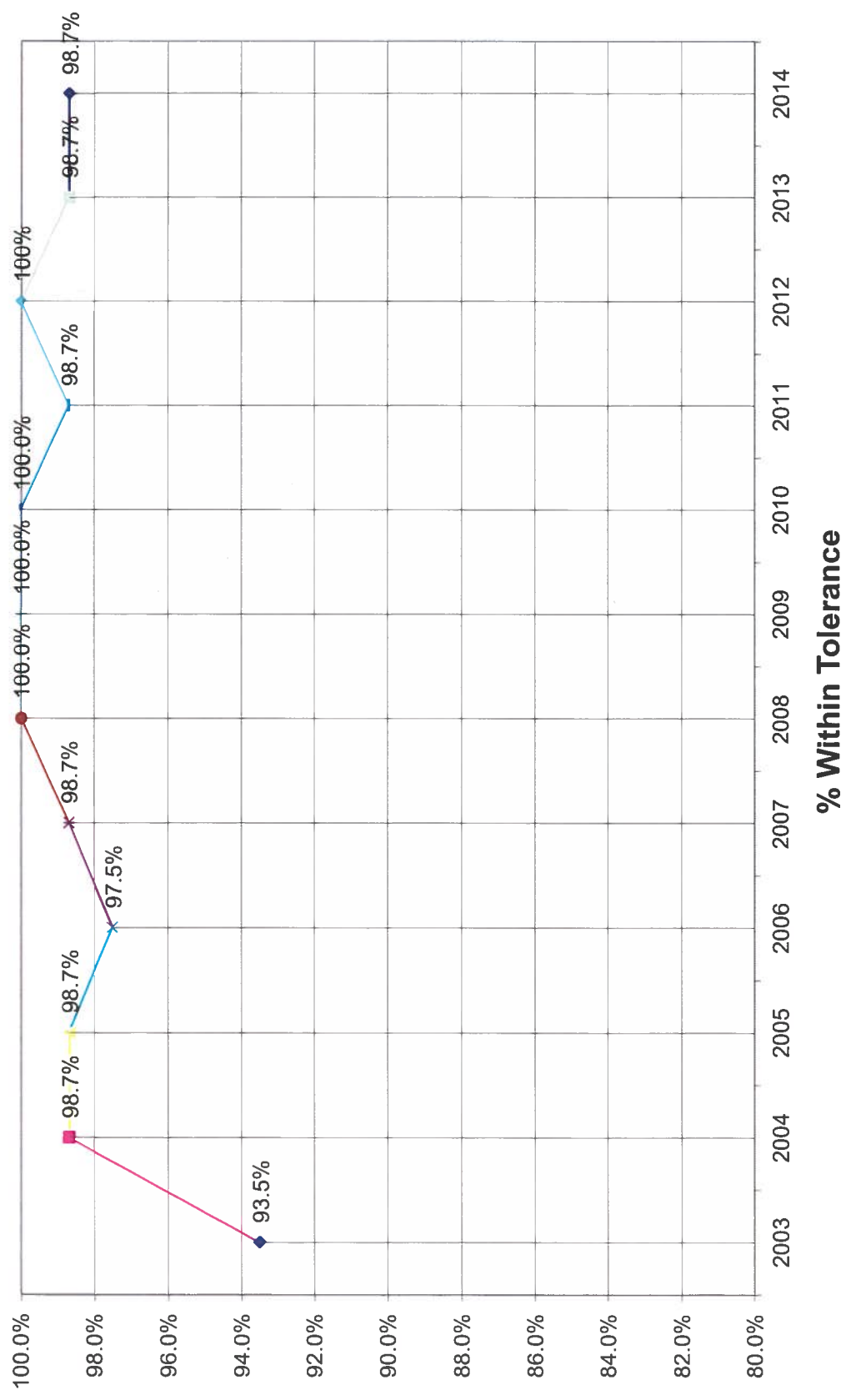
**BRSP01 = Repaired Sprague meters installed between 2008 & 2012**

**BNAM01 = New American meters purchased between 2004 & 2012**

**BNAM01**

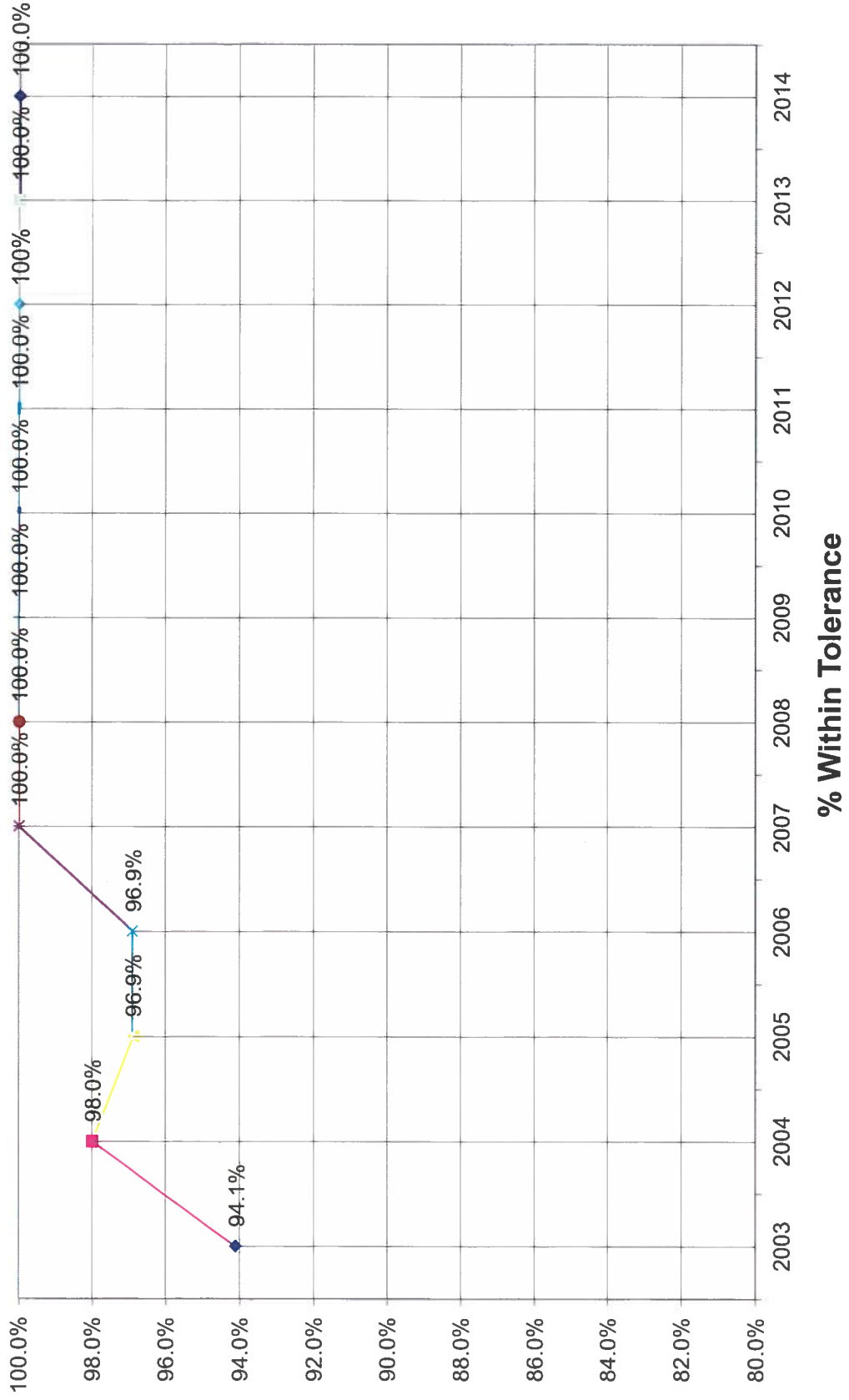


# BRAM01

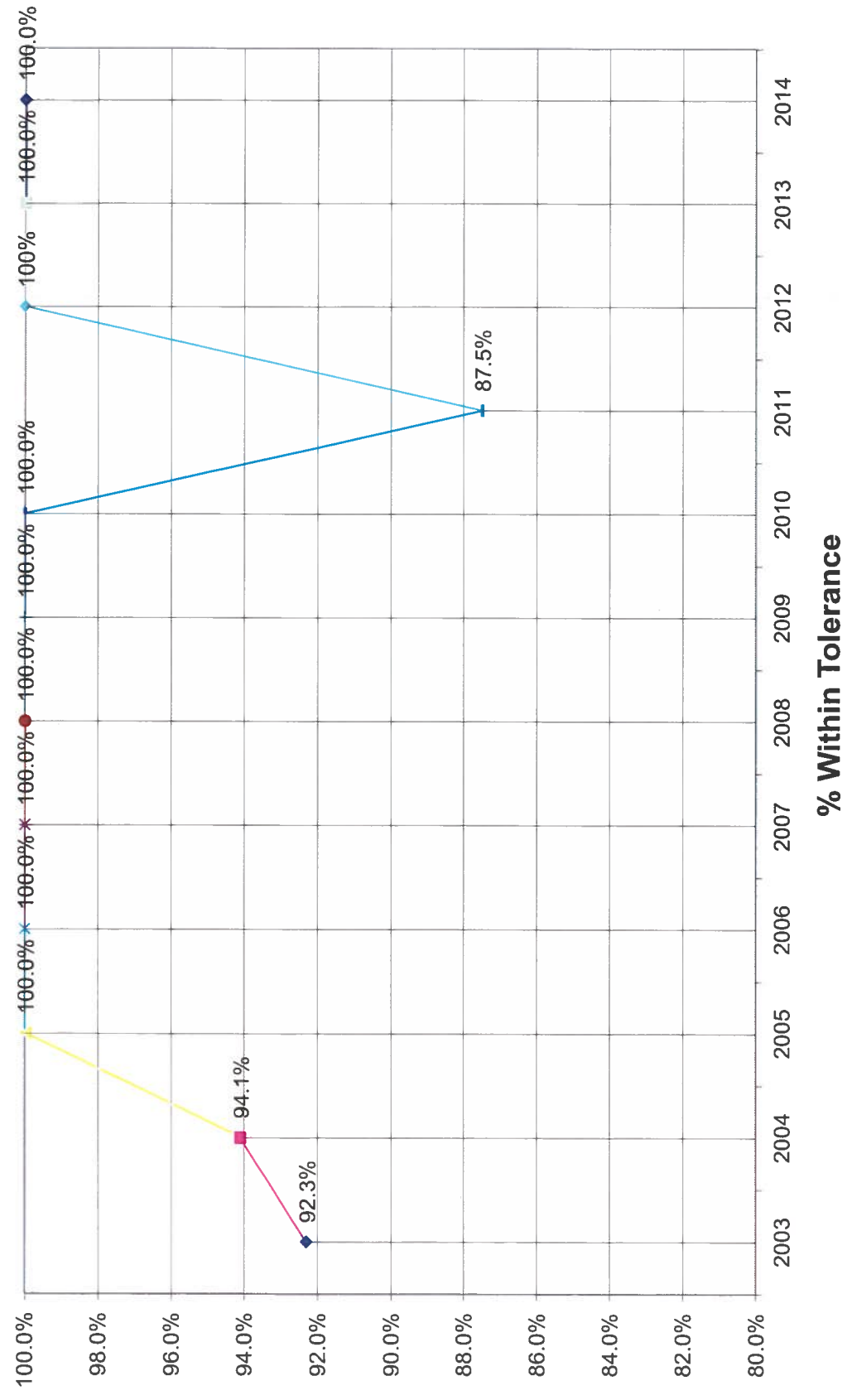




# BRRO01



**BRSP01**



**EXHIBIT F**

**COST SAVINGS**

**The 2014 sampling program resulted in changing 5465 fewer meters than would have been changed under the 14-year plan Columbia Gas of Kentucky was following prior to meter sampling and changing 9566 fewer meters than would have been required under a 10-year change-out program.**

**This represents yearly savings of \$1,300,976 compared to a 10-year plan**

**This represents yearly savings of \$743,240 compared to a 14-year plan**

**EXHIBIT G**

**TEST RESULTS OF NEW METERS**

**Columbia Gas of Kentucky purchased 4944 new meters in 2014. The factory test sheets for the new meters purchased in 2014 are on file in the Lexington office.**

**No problems were found in the new 2014 purchases.**