**AERODROME CHART**

# NIIGATA AIRPORT
ELEV 1.40m(4.6ft)

CHANGE : THR ELEV. PAPI relocated. Shape of RWY and TWY. Length of Approach lighting system.

VAR 8 W-2008
ANNUAL CHANGE 0.3'W

LOC

ELEV 27ft

PAPI ANGLE 3.0°
MEHT 22.9m (75ft)
535m INSIDE FM THR

7▽1 6▽2 5▽3 4▽4 3▽5 2▽6 1▽7

7△1 6△2 5△ 4△4 3△5

TAXIING GUIDANCE SIGN
WIND SPEED METER
WDI

ARP
375721N
1390642E

VORTAC
(GTC)

PAPI ANGLE 3.0°
MEHT 19.9m (65ft)
455m INSIDE FM THR

GP

A3
RWY TIL
22
ELEV 6ft
ELEV 10ft
28
RUNWAY
GUARD LIGHTS

B5 B4 B3 B2 B1
P4 P3
C6 C5 C4 C3 C2 C1

CEILOMETER
WIND SPEED METER
RVR
WDI
PAPI ANGLE 3.0°
MEHT 18.6m (61ft)
361m INSIDE FM THR

JSDF-A

APRON

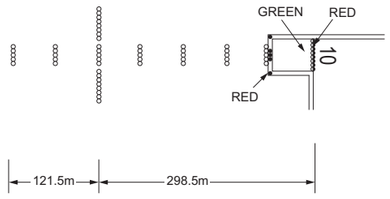
1 2 3 4 5 6 7 8 9 10

FIRE STN
TWR AIS MET
TERMINAL BLDG

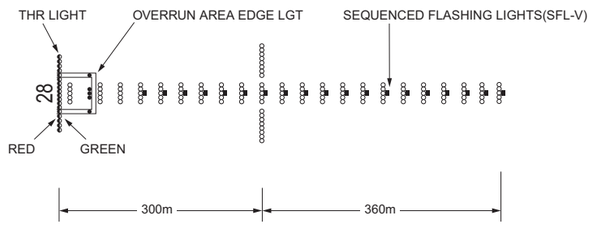
ASR
ABN
JCG

S APRON
S-TWY
A1
ELEV 23ft
04
RWY TIL

## SIMPLE APPROACH LIGHTING SYSTEM



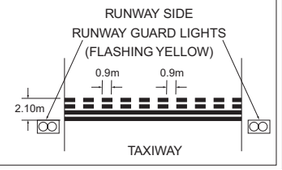

## APPROACH LIGHTING SYSTEM



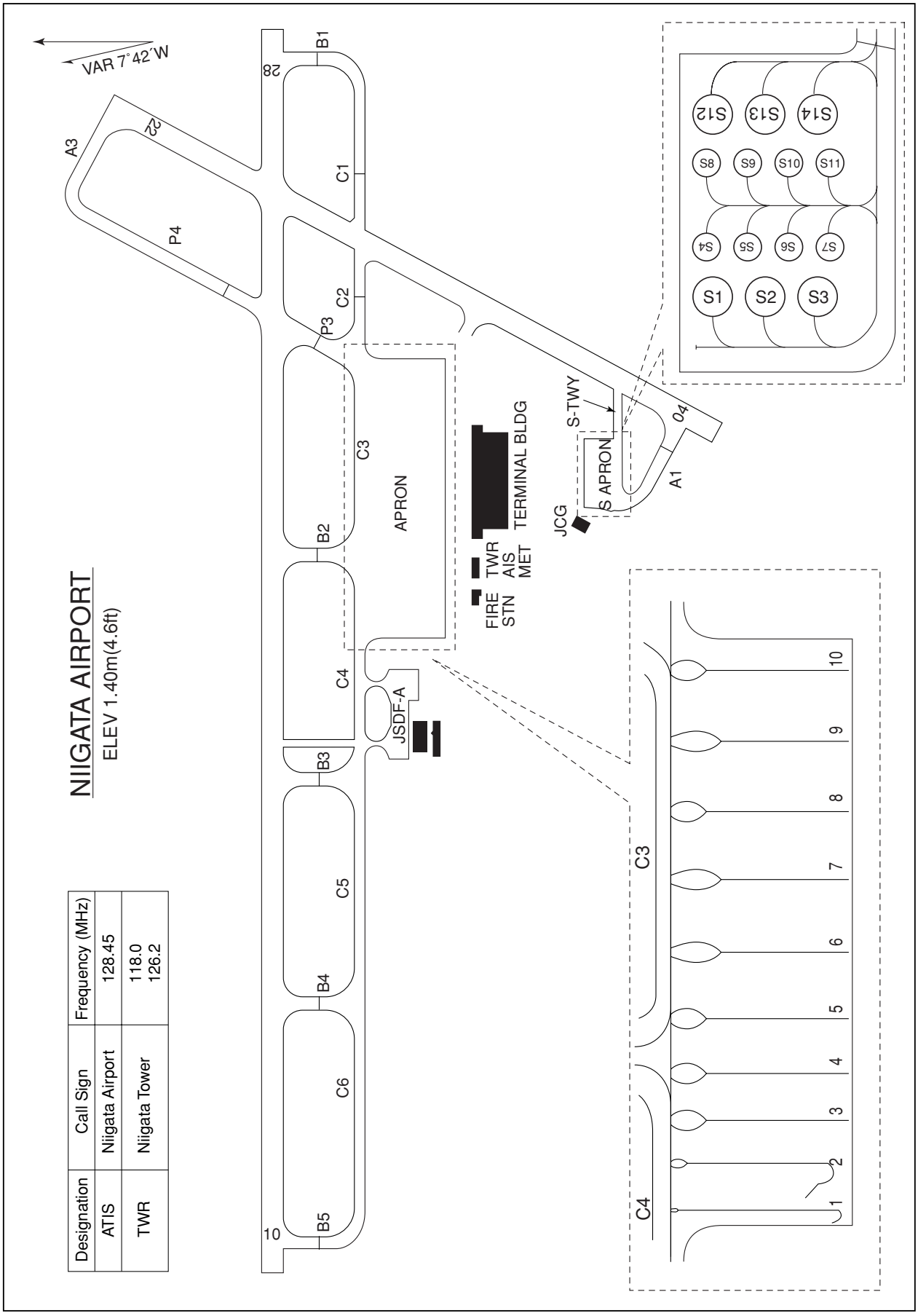

## RUNWAY-HOLDING POSITION MARKINGS and RUNWAY GUARD LIGHTS

Runway-holding position markings and Runway guard lights are located on taxiway B-1 through B-5, C-1, C-2 and P-3. Their locations are 75m off the runway centerline.

## COMMON WAYS OF ITS MARKING AND LIGHTS



RJSN / NIIGATA AD CHART




| Designation | Call Sign | Frequency (MHz) |
|---|---|---|
| ATIS | Niigata Airport | 128.45 |
| TWR | Niigata Tower | 118.0<br>126.2 |

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC
Transverse Mercator Projection

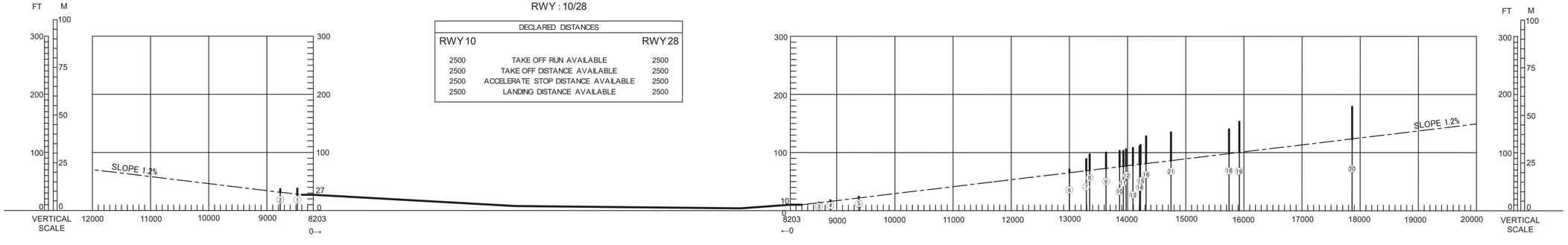
# AERODROME OBSTACLE CHART-ICAO

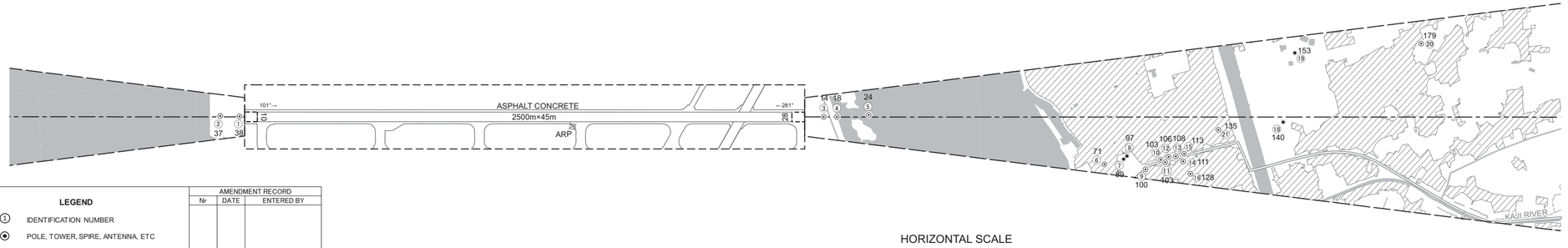
TYPE A (OPERATING LIMITATIONS)

MAGNETIC VARIATION 9°W - DEC 2022

NIIGATA AIRPORT
RWY : 10/28

| DECLARED DISTANCES | | |
|---|---|---|
| RWY 10 | | RWY 28 |
| 2500 | TAKE OFF RUN AVAILABLE | 2500 |
| 2500 | TAKE OFF DISTANCE AVAILABLE | 2500 |
| 2500 | ACCELERATE STOP DISTANCE AVAILABLE | 2500 |
| 2500 | LANDING DISTANCE AVAILABLE | 2500 |




HORIZONTAL SCALE

FEET

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 ft

500 0 500 1000 1500 2000 2500 3000 m

METRES

| LEGEND |
|---|
| ① IDENTIFICATION NUMBER |
| POLE, TOWER, SPIRE, ANTENNA, ETC |
| TREE / LEVEE |
| RAILROAD / RIVER |
| TRIANGULATION POINT |
| AERONAUTICAL GROUND LIGHT |
| BUILDING OR LARGE STRUCTURE |
| CONTOURS(ft) |

| AMENDMENT RECORD | | |
|---|---|---|
| Nr | DATE | ENTERED BY |

測量法に基づく国土地理院長承認(使用) R 4JHs 286　国土数値情報 （緊急輸送道路）

CHANGE:Update

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC
Transverse Mercator Projection

# AERODROME OBSTACLE CHART-ICAO
TYPE B

AERODROME ELEVATION 4.6ft ARP

VAR 9° W DEC 2022
ANNUAL CHANGE 4'W

HORIZONTAL SURFACE

APPROACH SURFACE
SLOPE 1:50

TRANSITIONAL SURFACE
SLOPE 1:7

TAKE-OFF FLIGHT PATH
SLOPE 1:2%

NATIONAL ROUTE 113

KAJI RIVER

NIIGATA CITY

SHINANO RIVER

AGANO RIVER

NEW SHINANO RIVER

NATIONAL ROUTE 7

AGANO-NIIGATA KONAN BRIDGE

TSUSEN RIVER

NEW KUROSE RIVER

TAIHEI BRIDGE

HAKUSHIN LINE

NATIONAL ROUTE 7
(NIIGATA BYPASS)

JOETSU SHINKANSEN

ASPHALT CONCRETE

| LEGEND | |
|---|---|
| AERODROME REFERENCE POINT | *37° 57'21"N 139° 06'42"E* |
| POLE, TOWER, SPIRE, ANTENNA, ETC | |
| AERONAUTICAL GROUND LIGHT | |
| OBSTRUCTION LIGHT | |
| BUILDING OR LARGE STRUCTURE | |
| RAILROAD / TRIANGULATION POINT | |
| LEVEE / RIVER | |
| TREE / CONTOURS(ft) | |
| LAKE | |

| AMENDMENT RECORD | | |
|---|---|---|
| Nr | DATE | ENTERED BY |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

HORIZONTAL SCALE

FEET

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 ft

500 0 500 1000 1500 2000 2500 3000 m

METRE

測量法に基づく国土地理院長承認(使用) R 4JHs 286 国土数値情報（緊急輸送道路）

CHANGE:Update

STANDARD DEPARTURE CHART-INSTRUMENT

RJSN / NIIGATA SID

CHANGE : PROC renamed(OKESA SEVEN DEPARTURE). PROC course.

OKESA SEVEN DEPARTURE

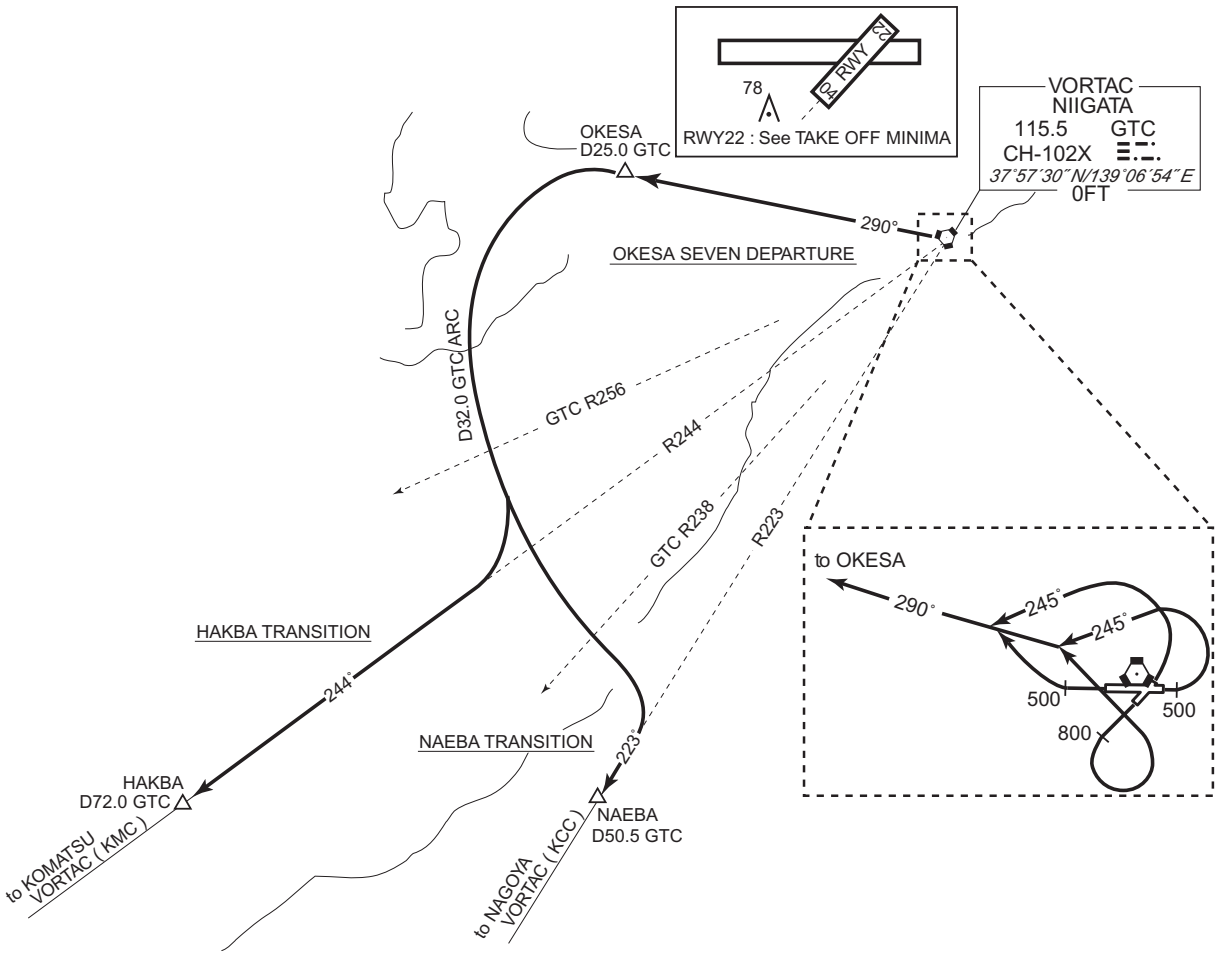
RWY 04 : Turn left HDG 245˚...
RWY 10 : Climb RWY HDG to 500FT, turn left HDG 245°...
RWY 22 : Climb RWY HDG to 800FT, turn left...
RWY 28 : Climb RWY HDG to 500FT, turn right...
...to intercept and proceed via GTC R290 to OKESA.

NAEBA TRANSITION

From over OKESA, turn left to intercept and proceed via GTC 32.0DME counterclockwise ARC, turn right to intercept and proceed via GTC R223 to NAEBA.

HAKBA TRANSITION

From over OKESA, turn left to intercept and proceed via GTC 32.0DME counterclockwise ARC, turn right to intercept and proceed via GTC R244 to HAKBA.

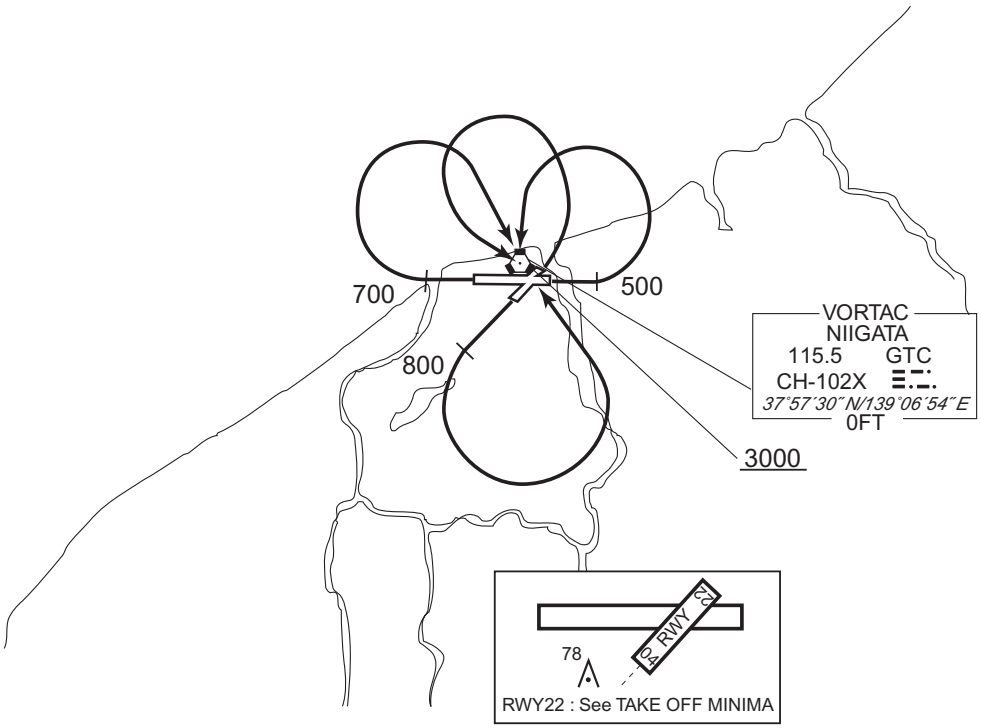


STANDARD DEPARTURE CHART-INSTRUMENT

RJSN / NIIGATA SID

NIIGATA REVERSAL SEVEN DEPARTURE

RWY 04 : Turn left...
RWY 10 : Climb RWY HDG to 500FT, turn left...
RWY 22 : Climb RWY HDG to 800FT, turn left...
RWY 28 : Climb RWY HDG to 700FT, turn right...
...direct to GTC VORTAC.
Cross GTC VORTAC at or above 3000FT.




CHANGE : PROC renamed. ALT restriction.

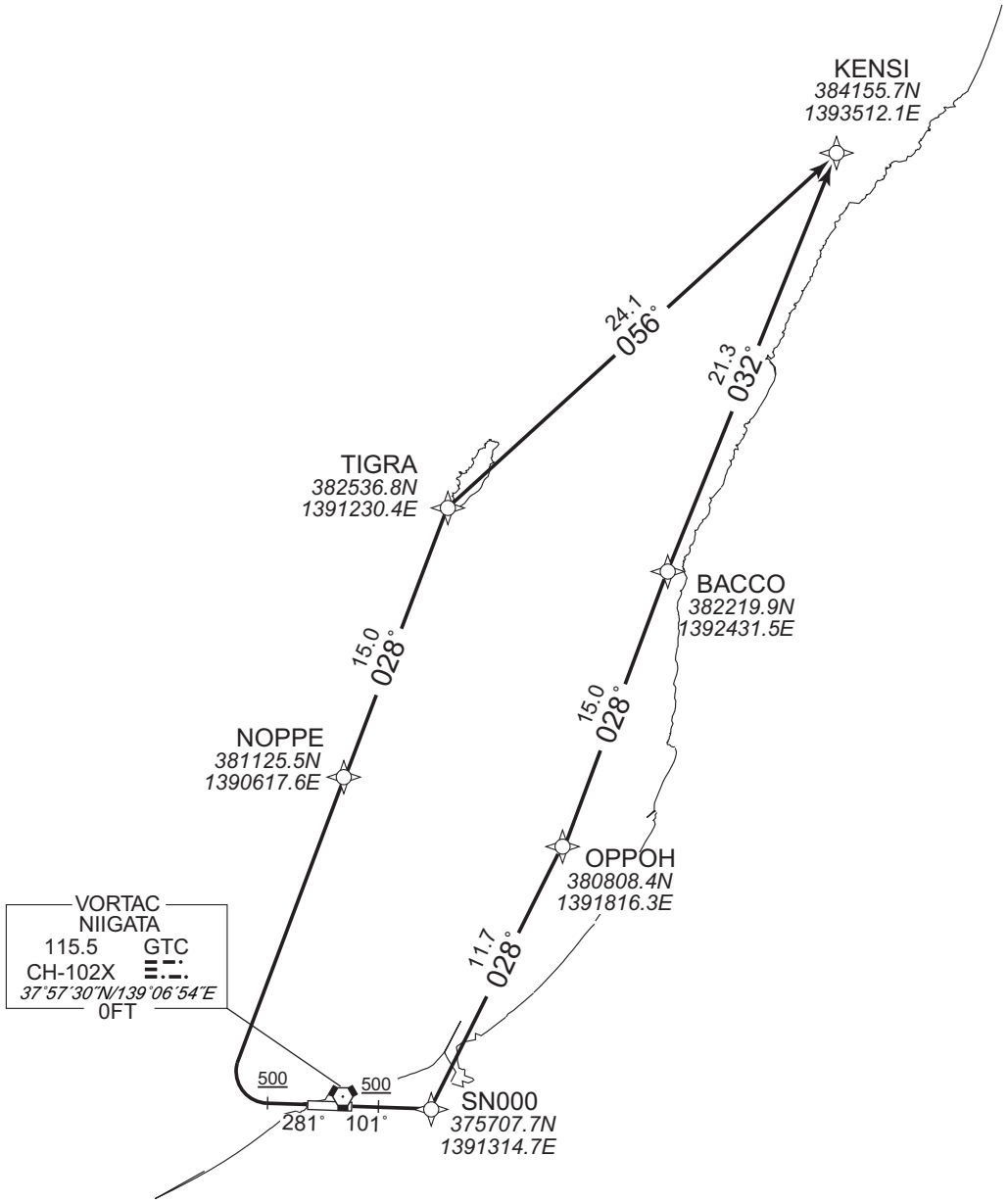
**STANDARD DEPARTURE CHART-INSTRUMENT**

RJSN / NIIGATA RNAV SID

| SASAGA THREE DEPARTURE | Basic RNP1 |
|---|---|

Note GNSS required.

VAR 9˚W




RWY10 : Climb on HDG101˚ at or above 500FT, direct to SN000, to OPPOH, to BACCO, to KENSI.
RWY28 : Climb on HDG281˚ at or above 500FT, turn right direct to NOPPE, to TIGRA, to KENSI.

NOTE RWY10 : 5.0% climb gradient required up to 500FT.

CHANGE : Description of VAR.

**STANDARD DEPARTURE CHART-INSTRUMENT**

RJSN / NIIGATA RNAV SID

## SASAGA THREE DEPARTURE

RWY10

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | – | – | 101 (092.7) | -8.6 | – | – | +500 | – | – | Basic RNP1 |
| 002 | DF | SN000 | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 003 | TF | OPPOH | – | 028 (019.7) | -8.6 | 11.7 | – | – | – | – | Basic RNP1 |
| 004 | TF | BACCO | – | 028 (019.1) | -8.6 | 15.0 | – | – | – | – | Basic RNP1 |
| 005 | TF | KENSI | – | 032 (023.0) | -8.6 | 21.3 | – | – | – | – | Basic RNP1 |

RWY28

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | – | – | 281 (272.7) | -8.6 | – | – | +500 | – | – | Basic RNP1 |
| 002 | DF | NOPPE | – | – | -8.6 | – | R | – | – | – | Basic RNP1 |
| 003 | TF | TIGRA | – | 028 (018.9) | -8.6 | 15.0 | – | – | – | – | Basic RNP1 |
| 004 | TF | KENSI | – | 056 (047.3) | -8.6 | 24.1 | – | – | – | – | Basic RNP1 |

CHANGE : VAR. PROC renamed. Navigation specification. PROC course.

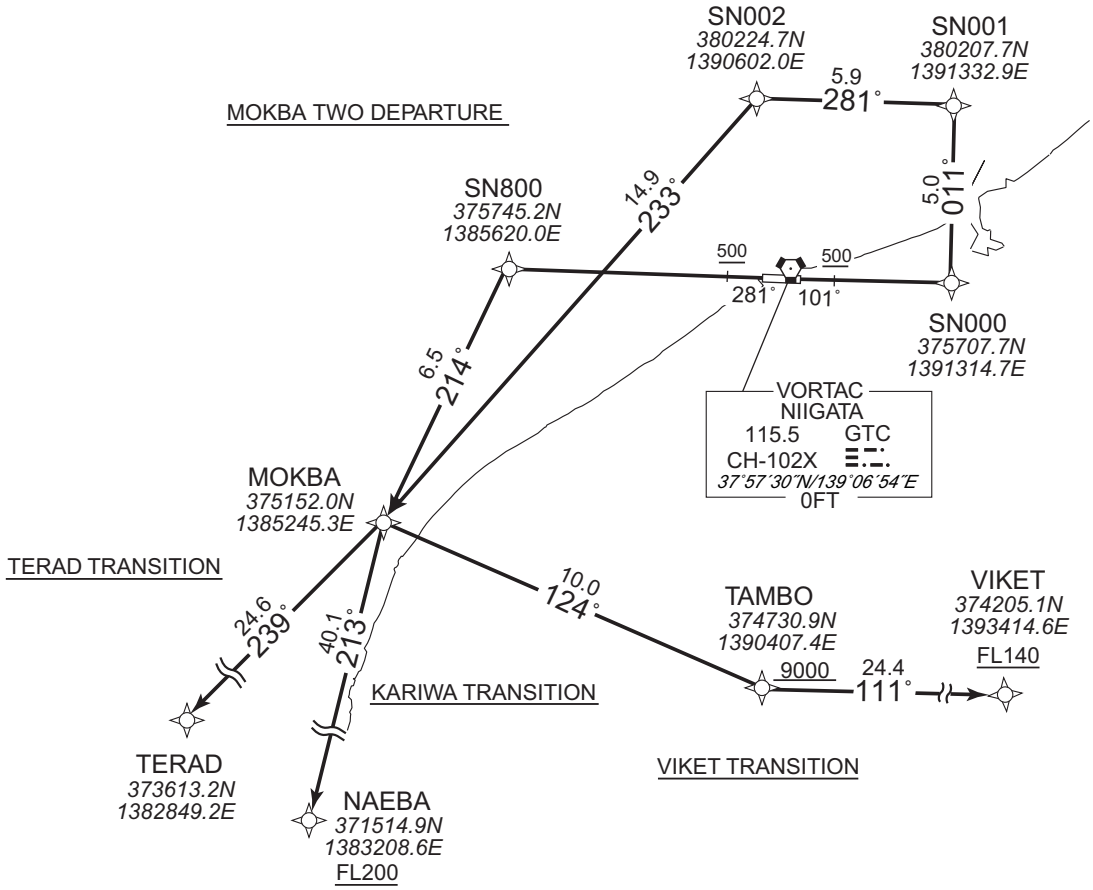
**STANDARD DEPARTURE CHART-INSTRUMENT**

RJSN / NIIGATA — RNAV SID and TRANSITION

| MOKBA TWO DEPARTURE<br>KARIWA TRANSITION / TERAD TRANSITION / VIKET TRANSITION | Basic RNP1 |
|---|---|

Note GNSS required.

VAR 9˚W




MOKBA TWO DEPARTURE

RWY10 : Climb on HDG101˚ at or above 500FT, direct to SN000, to SN001, to SN002, to MOKBA.
RWY28 : Climb on HDG281˚ at or above 500FT, direct to SN800, to MOKBA.
NOTE RWY10 : 5.0% climb gradient required up to 500FT.

KARIWA TRANSITION

From MOKBA, to NAEBA at or above FL200.

TERAD TRANSITION

From MOKBA, to TERAD.

VIKET TRANSITION

From MOKBA, to TAMBO at or above 9000FT, to VIKET at or above FL140.

CHANGE : Description of VAR.

STANDARD DEPARTURE CHART-INSTRUMENT

RJSN / NIIGATA

RNAV SID and TRANSITION

CHANGE : VAR. PROC renamed. Navigation specification. Course FM MOKBA to NAEBA. ALT restriction at TAMBO established.

## MOKBA TWO DEPARTURE

RWY10

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | – | – | 101 (092.7) | -8.6 | – | – | +500 | – | – | Basic RNP1 |
| 002 | DF | SN000 | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 003 | TF | SN001 | – | 011 (002.7) | -8.6 | 5.0 | – | – | – | – | Basic RNP1 |
| 004 | TF | SN002 | – | 281 (272.8) | -8.6 | 5.9 | – | – | – | – | Basic RNP1 |
| 005 | TF | MOKBA | – | 233 (224.9) | -8.6 | 14.9 | – | – | – | – | Basic RNP1 |

RWY28

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | – | – | 281 (272.7) | -8.6 | – | – | +500 | – | – | Basic RNP1 |
| 002 | DF | SN800 | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 003 | TF | MOKBA | – | 214 (205.6) | -8.6 | 6.5 | – | – | – | – | Basic RNP1 |

## KARIWA TRANSITION

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | MOKBA | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 002 | TF | NAEBA | – | 213 (204.2) | -8.6 | 40.1 | – | +FL200 | – | – | Basic RNP1 |

## TERAD TRANSITION

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | MOKBA | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 002 | TF | TERAD | – | 239 (230.5) | -8.6 | 24.6 | – | – | – | – | Basic RNP1 |

## VIKET TRANSITION

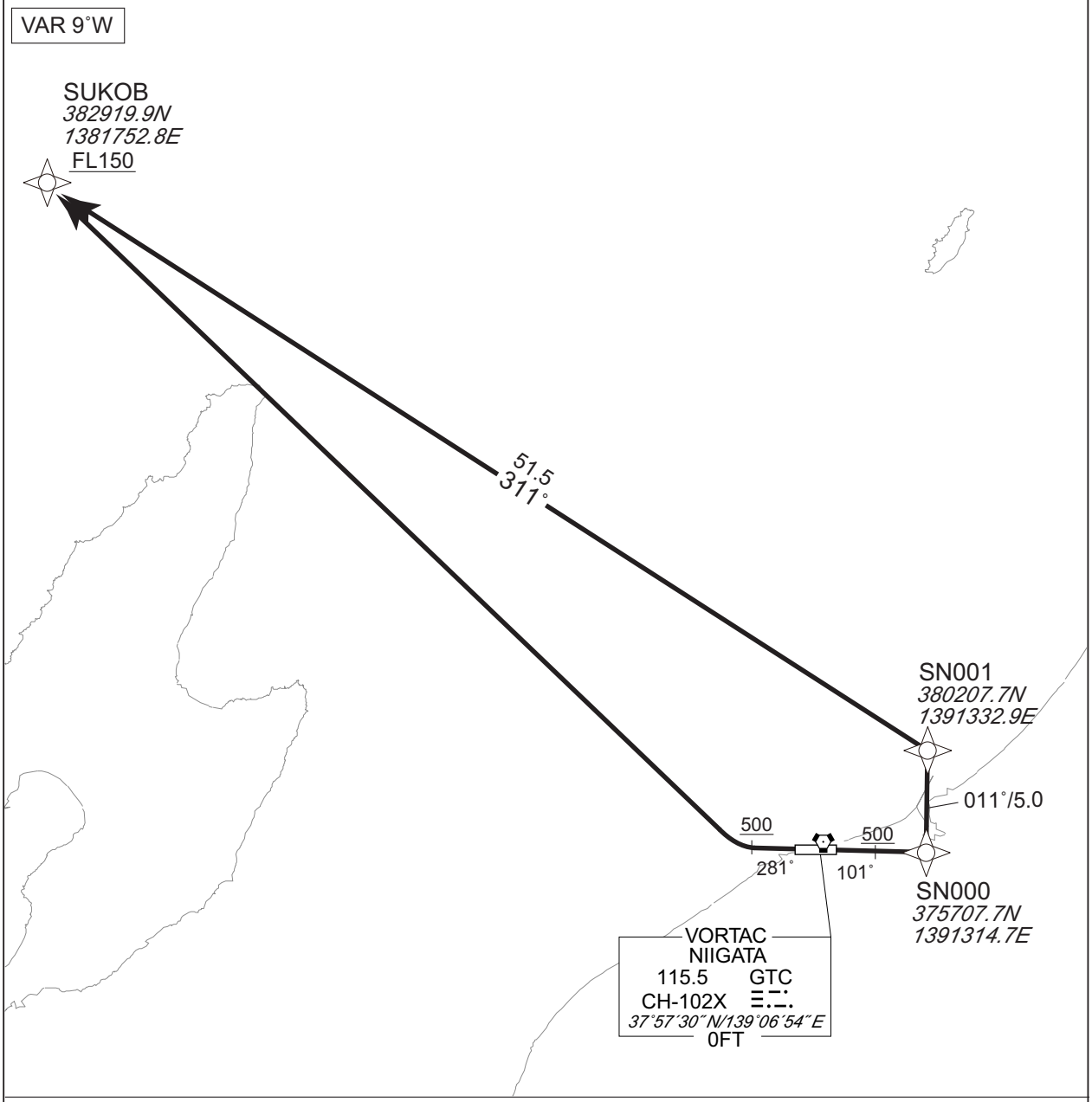
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | MOKBA | – | – | -8.6 | – | – | – | – | – | Basic RNP1 |
| 002 | TF | TAMBO | – | 124 (115.8) | -8.6 | 10.0 | – | +9000 | – | – | Basic RNP1 |
| 003 | TF | VIKET | – | 111 (102.7) | -8.6 | 24.4 | – | +FL140 | – | – | Basic RNP1 |

**STANDARD DEPARTURE CHART-INSTRUMENT**

RJSN / NIIGATA

RNAV SID

| SUKOB ONE DEPARTURE | | RNAV 1 |
|---|---|---|
| NOTE 1 ) DME/DME/IRU or GNSS required.<br>※The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll.<br>2 ) RADAR service required. | Critical DME | RWY10 : GTC : 10.0NM to SUKOB - SUKOB<br>NTE : 10.0NM to SUKOB - SUKOB<br>RWY28 : GTC : 15.0NM to SUKOB - SUKOB<br>NTE : 15.0NM to SUKOB - SUKOB |
| | DME GAP | RWY10 : DER - 10.0NM to SUKOB<br>RWY28 : DER - 15.0NM to SUKOB |
| | Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1. |




RWY10 : Climb on HDG101˚ at or above 500FT, direct to SN000, to SN001, to SUKOB at or above FL150.

RWY28 : Climb on HDG281˚ at or above 500FT, turn right direct to SUKOB at or above FL150.

Note RWY10 : 5.0% climb gradient required up to 500FT.

CHANGE : Description of VAR.

STANDARD DEPARTURE CHART-INSTRUMENT

RJSN/ NIIGATA RNAV SID

## SUKOB ONE DEPARTURE

RWY10

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | — | — | 101 (092.7) | -8.6 | — | — | +500 | — | — | RNAV1 |
| 002 | DF | SN000 | — | — | -8.6 | — | — | — | — | — | RNAV1 |
| 003 | TF | SN001 | — | 011 (002.7) | -8.6 | 5.0 | — | — | — | — | RNAV1 |
| 004 | TF | SUKOB | — | 311 (302.2) | -8.6 | 51.5 | — | +FL150 | — | — | RNAV1 |

RWY28

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | VA | — | — | 281 (272.7) | -8.6 | — | — | +500 | — | — | RNAV1 |
| 002 | DF | SUKOB | — | — | -8.6 | — | R | +FL150 | — | — | RNAV1 |

CHANGE : New PROC.

**STANDARD ARRIVAL CHART-INSTRUMENT**

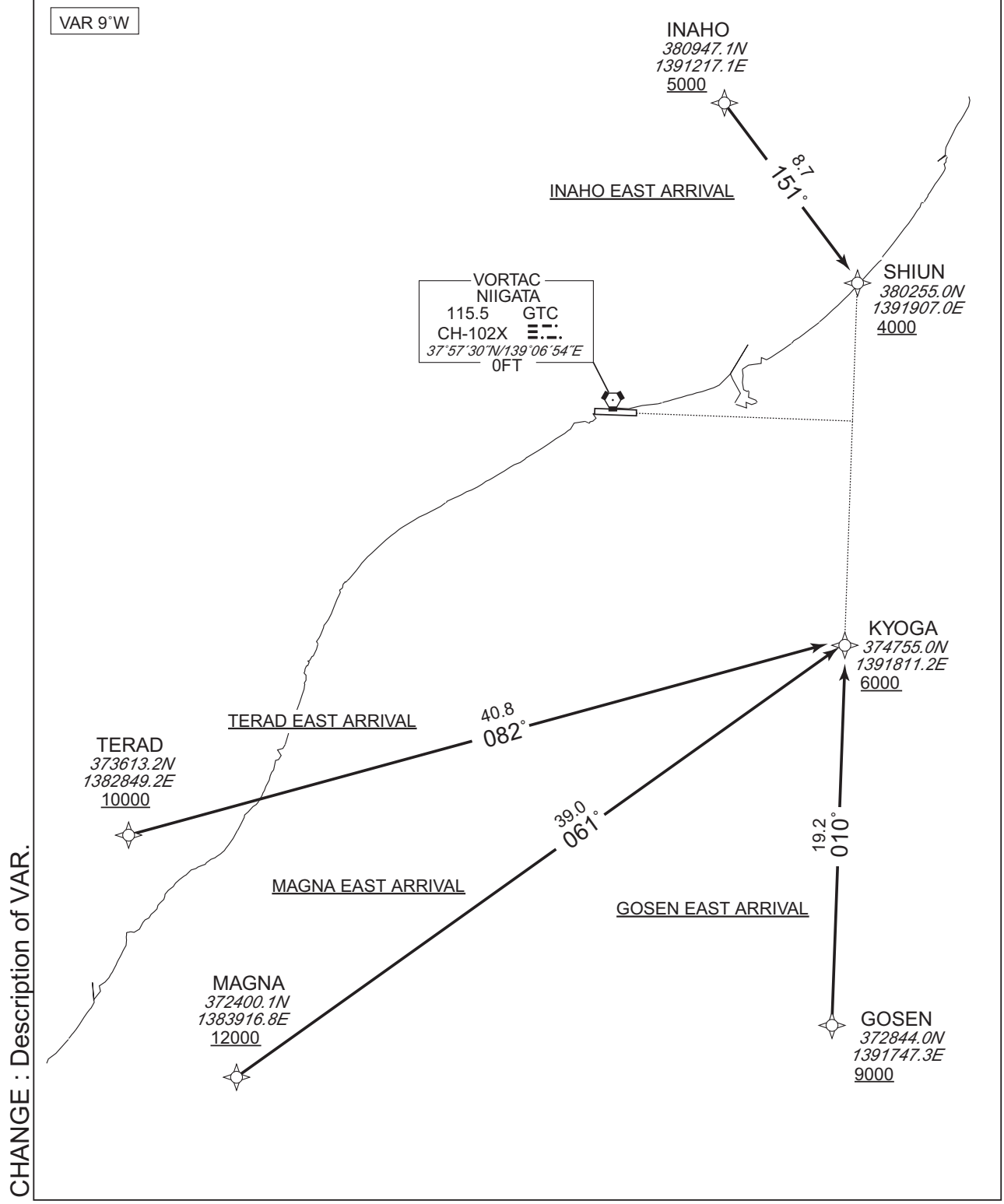
RJSN / NIIGATA

RNAV STAR RWY28

INAHO EAST ARRIVAL
GOSEN EAST ARRIVAL
MAGNA EAST ARRIVAL
TERAD EAST ARRIVAL

RNAV1

Note 1 ) GNSS required.
2 ) RADAR service required.



STANDARD ARRIVAL CHART-INSTRUMENT

RJSN / NIIGATA RNAV STAR RWY28

## INAHO EAST ARRIVAL

From INAHO at or above 5000FT, to SHIUN at or above 4000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | INAHO - SHIUN |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | INAHO | – | – | -8.6 | – | – | +5000 | – | – | RNAV1 |
| 002 | TF | SHIUN | – | 151 (141.9) | -8.6 | 8.7 | – | +4000 | – | – | RNAV1 |

## GOSEN EAST ARRIVAL

From GOSEN at or above 9000FT, to KYOGA at or above 6000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | GOSEN - KYOGA |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | GOSEN | – | – | -8.6 | – | – | +9000 | – | – | RNAV1 |
| 002 | TF | KYOGA | – | 010 (000.9) | -8.6 | 19.2 | – | +6000 | – | – | RNAV1 |

## MAGNA EAST ARRIVAL

From MAGNA at or above 12000FT, to KYOGA at or above 6000FT.

| | |
|---|---|
| Critical DME | GTC:MAGNA - 10.0NM to KYOGA<br>NTE:MAGNA - 10.0NM to KYOGA |
| DME GAP | 10.0NM to KYOGA - KYOGA |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | MAGNA | – | – | -8.6 | – | – | +12000 | – | – | RNAV1 |
| 002 | TF | KYOGA | – | 061 (052.0) | -8.6 | 39.0 | – | +6000 | – | – | RNAV1 |

## TERAD EAST ARRIVAL

From TERAD at or above 10000FT, to KYOGA at or above 6000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | TERAD - KYOGA |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | TERAD | – | – | -8.6 | – | – | +10000 | – | – | RNAV1 |
| 002 | TF | KYOGA | – | 082 (073.1) | -8.6 | 40.8 | – | +6000 | – | – | RNAV1 |

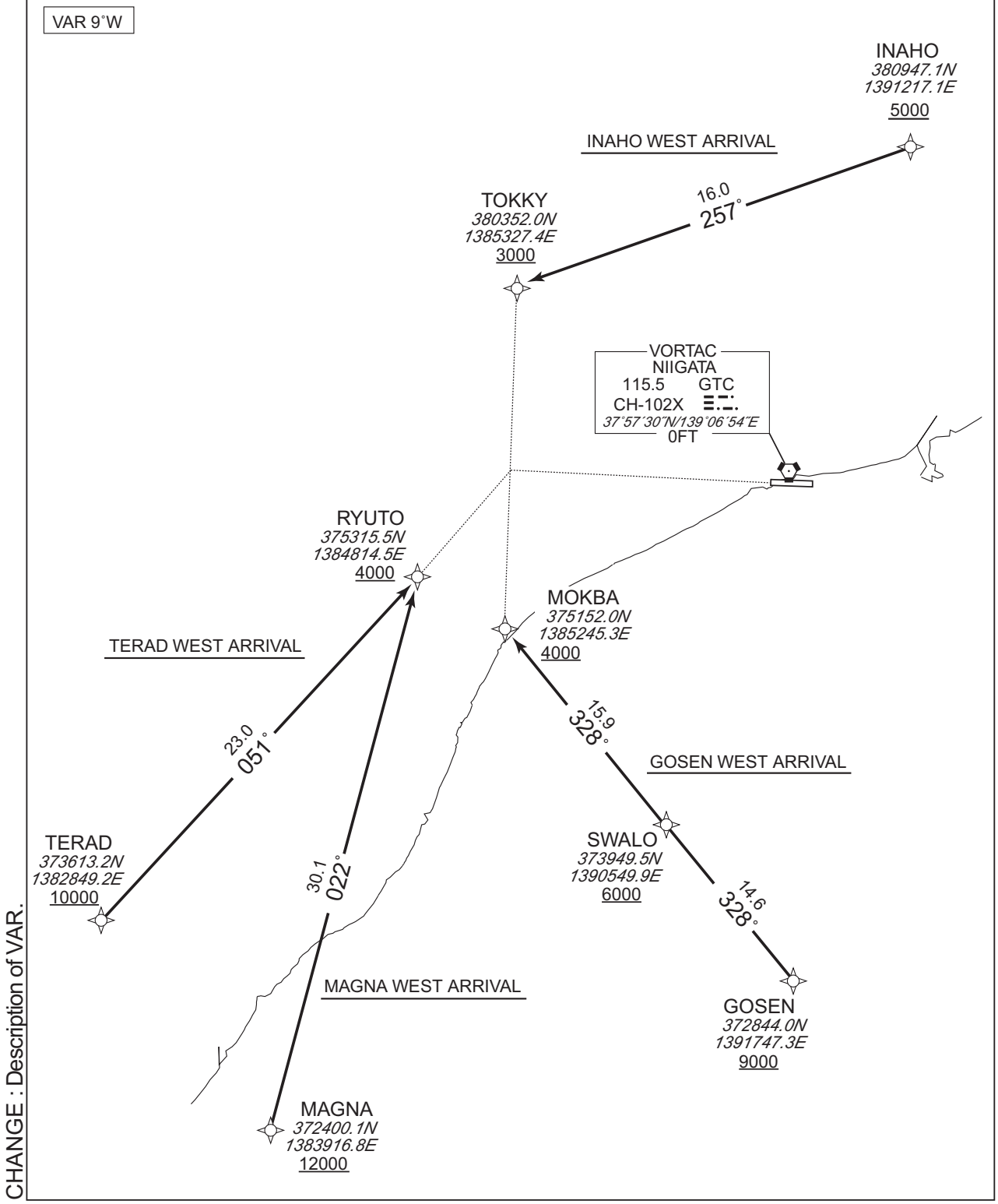
CHANGE : VAR. PROC course.

**STANDARD ARRIVAL CHART-INSTRUMENT**

RJSN / NIIGATA — RNAV STAR RWY10

| INAHO WEST ARRIVAL<br>GOSEN WEST ARRIVAL<br>MAGNA WEST ARRIVAL<br>TERAD WEST ARRIVAL | RNAV1 |
|---|---|

Note 1 ) GNSS required.
2 ) RADAR service required.



RJSN / NIIGATA RNAV STAR RWY10

CHANGE : VAR. PROC course FM TERAD to RYUTO.

## INAHO WEST ARRIVAL

From INAHO at or above 5000FT, to TOKKY at or above 3000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | INAHO - TOKKY |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | INAHO | – | – | -8.6 | – | – | +5000 | – | – | RNAV1 |
| 002 | TF | TOKKY | – | 257 (248.3) | -8.6 | 16.0 | – | +3000 | – | – | RNAV1 |

## GOSEN WEST ARRIVAL

From GOSEN at or above 9000FT, to SWALO at or above 6000FT, to MOKBA at or above 4000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | GOSEN - MOKBA |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | GOSEN | – | – | -8.6 | – | – | +9000 | – | – | RNAV1 |
| 002 | TF | SWALO | – | 328 (319.5) | -8.6 | 14.6 | – | +6000 | – | – | RNAV1 |
| 003 | TF | MOKBA | – | 328 (319.4) | -8.6 | 15.9 | – | +4000 | – | – | RNAV1 |

## MAGNA WEST ARRIVAL

From MAGNA at or above 12000FT, to RYUTO at or above 4000FT.

| | |
|---|---|
| Critical DME | GTC:MAGNA - 15.0NM to RYUTO<br>NTE:MAGNA - 15.0NM to RYUTO |
| DME GAP | 15.0NM to RYUTO - RYUTO |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | MAGNA | – | – | -8.6 | – | – | +12000 | – | – | RNAV1 |
| 002 | TF | RYUTO | – | 022 (013.6) | -8.6 | 30.1 | – | +4000 | – | – | RNAV1 |

## TERAD WEST ARRIVAL

From TERAD at or above 10000FT, to RYUTO at or above 4000FT.

| | |
|---|---|
| Critical DME | – |
| DME GAP | TERAD - RYUTO |
| Inappropriate Navaids | See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 |

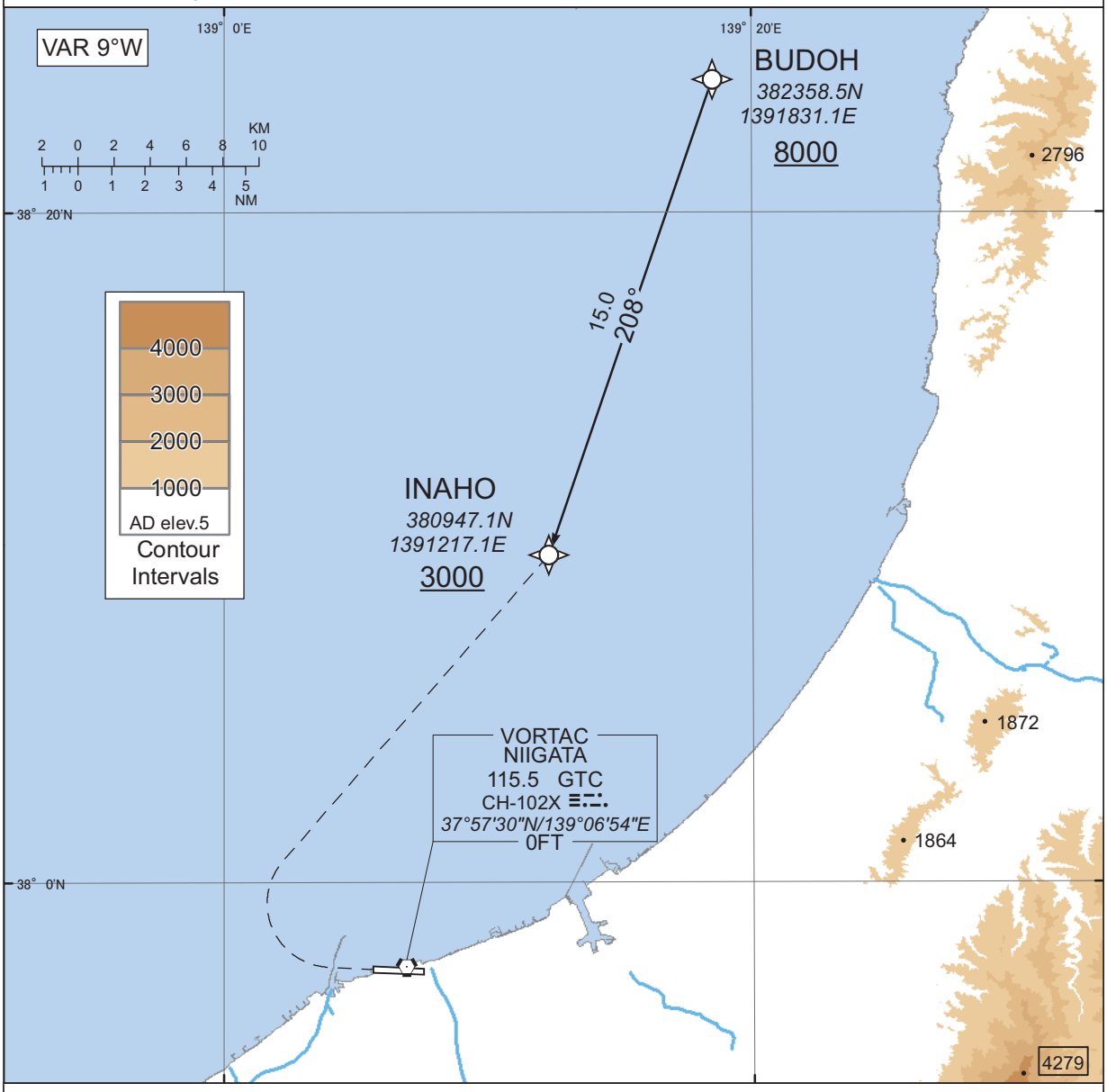
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course ˚M(˚T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | TERAD | – | – | -8.6 | – | – | +10000 | – | – | RNAV1 |
| 002 | TF | RYUTO | – | 051 (041.9) | -8.6 | 23.0 | – | +4000 | – | – | RNAV1 |

STANDARD ARRIVAL CHART-INSTRUMENT

RJSN / NIIGATA — RNAV STAR RWY10

| KAETSU ARRIVAL | Basic RNP1 |
|---|---|

Note GNSS required.




From BUDOH at or above 8000FT, to INAHO at or above 3000FT.

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | BUDOH | - | 208 (199.1) | -8.6 | - | - | +8000 | - | - | Basic RNP1 |
| 002 | TF | INAHO | - | - | -8.6 | 15.0 | - | +3000 | - | - | Basic RNP1 |

CHANGE : New PROC.

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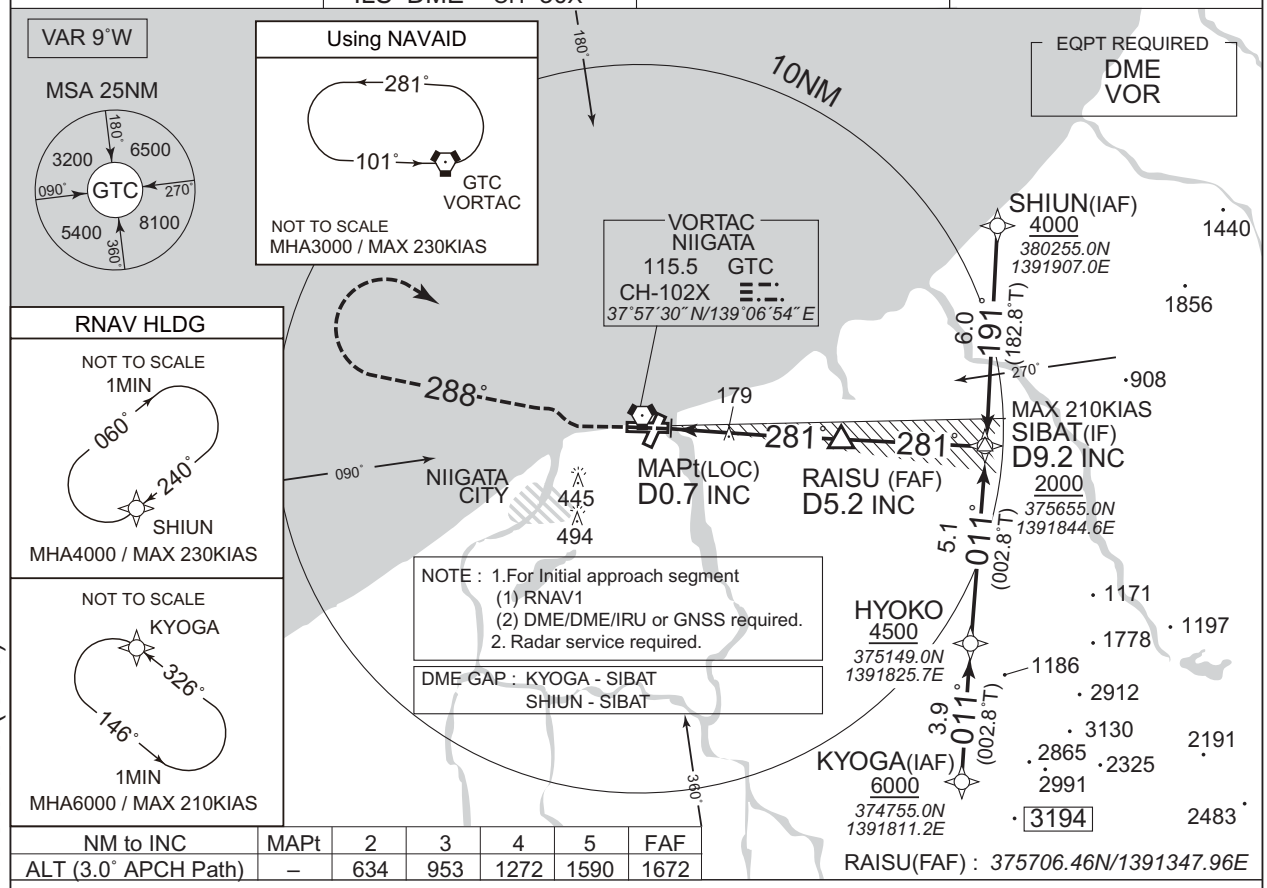
**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA — ILS Z or LOC Z RWY28

| NIIGATA APP | ILS – LOC | NIIGATA TOWER | RADAR AVBL |
|---|---|---|---|
| 121.4 | 109.3 INC<br>ILS–GP 332.0<br>ILS–DME CH–30X | 118.0 – 126.2 | ATIS 128.45 |



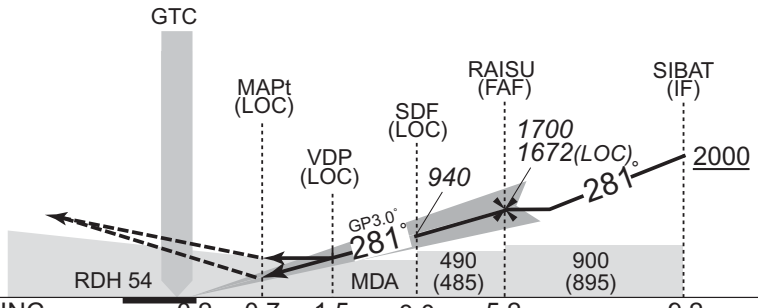

RAISU(FAF) : *375706.46N/1391347.96E*

| NM to INC | MAPt | 2 | 3 | 4 | 5 | FAF |
|---|---|---|---|---|---|---|
| ALT (3.0° APCH Path) | – | 634 | 953 | 1272 | 1590 | 1672 |

MISSED APPROACH

Climb to 2000FT via GTC R288,
turn right, direct to GTC VORTAC
and hold at 3000FT.
Contact NIIGATA APP.

Timing not authorized for defining the MAPt.




| DME to INC | 0.2 | 0.7 | 1.5 | 3.0 | 5.2 | 9.2 |
|---|---|---|---|---|---|---|
| NM to THR | 0 | 0.5 | 1.3 | 2.8 | 5.1 | 9.0 |

Missed APCH climb gradient MNM 3.0%

MINIMA THR elev. 10 AD elev. 5

| CAT | CAT I | | LOC | | CIRCLING | |
|---|---|---|---|---|---|---|
| | DA(H) | RVR/CMV | MDA(H) | RVR/CMV | MDA(H) | VIS |
| A | 210 (200) | 700 | 470 (465) | 1400 | 710 (705) | 1600 |
| B | | | | 1500 | | |
| C | | | | 1600 | 790 (785) | 2400 |
| D | | | | 1800 | | 3200 |

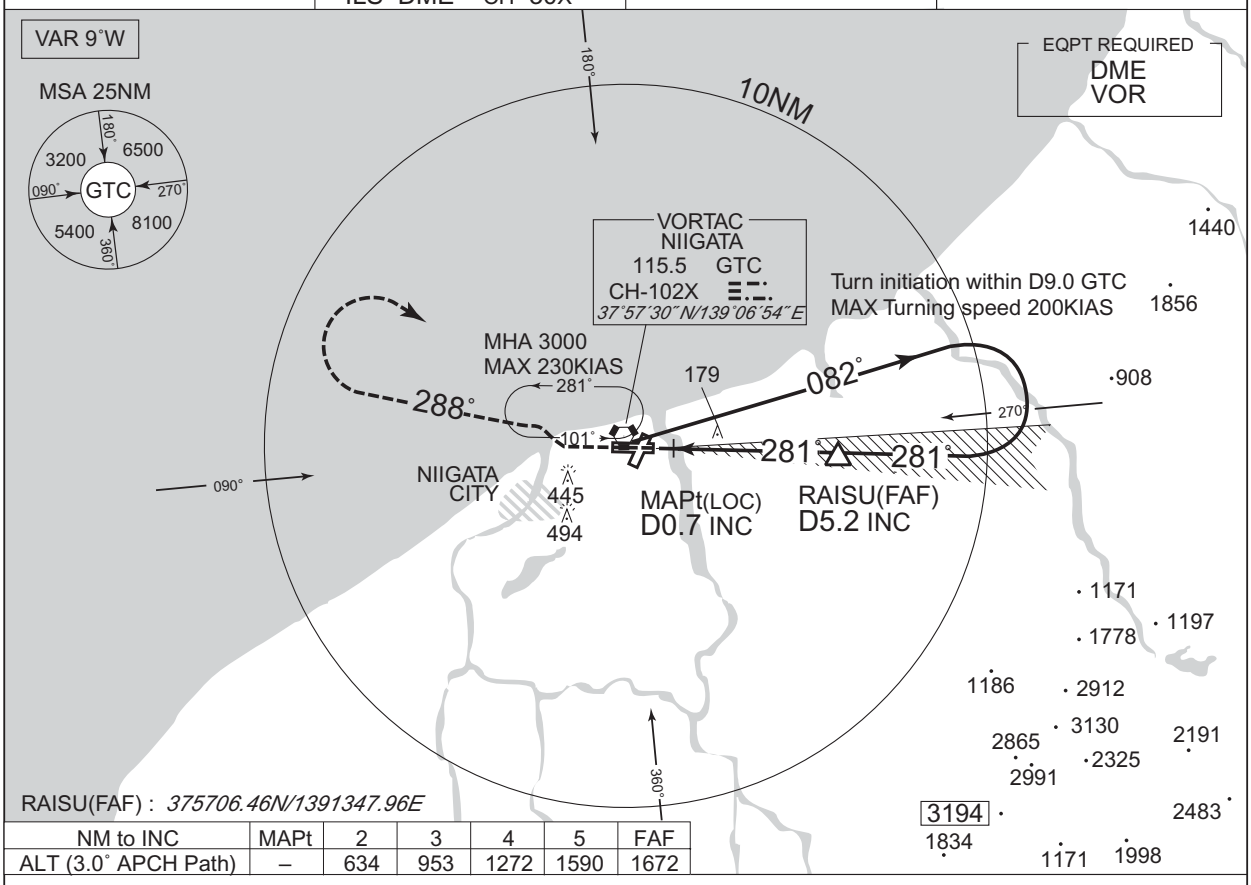
MINIMA with Missed APCH climb gradient of 2.5% are not established.

CHANGE : MSA(BTN 270°and 360°). Missed APCH course. HLDG course(GTC).

**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA — ILS Y or LOC Y RWY28

| NIIGATA APP | ILS – LOC | NIIGATA TOWER | RADAR AVBL |
|---|---|---|---|
| 121.4 | 109.3 INC<br>ILS–GP 332.0<br>ILS–DME CH–30X | 118.0 – 126.2 | ATIS 128.45 |

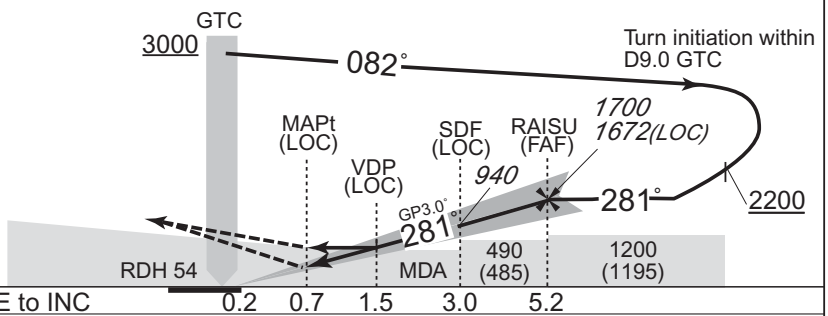



| NM to INC | MAPt | 2 | 3 | 4 | 5 | FAF |
|---|---|---|---|---|---|---|
| ALT (3.0˚ APCH Path) | – | 634 | 953 | 1272 | 1590 | 1672 |

MISSED APPROACH

Climb to 2000FT via GTC R288,
turn right, direct to GTC
VORTAC and hold at 3000FT.
Contact NIIGATA APP.

Timing not authorized for defining the MAPt.




| DME to INC | | 0.2 | 0.7 | 1.5 | 3.0 | 5.2 |
|---|---|---|---|---|---|---|
| NM to THR | | 0 | 0.5 | 1.3 | 2.8 | 5.1 |

Missed APCH climb gradient MNM 3.0%

MINIMA — THR elev. 10 — AD elev. 5

| CAT | CAT I | | LOC | | CIRCLING | |
|---|---|---|---|---|---|---|
| | DA(H) | RVR/CMV | MDA(H) | RVR/CMV | MDA(H) | VIS |
| A | 210 (200) | 700 | 470 (465) | 1400 | 710 (705) | 1600 |
| B | | | | 1500 | | |
| C | | | | 1600 | 790 (785) | 2400 |
| D | | | | 1800 | | 3200 |

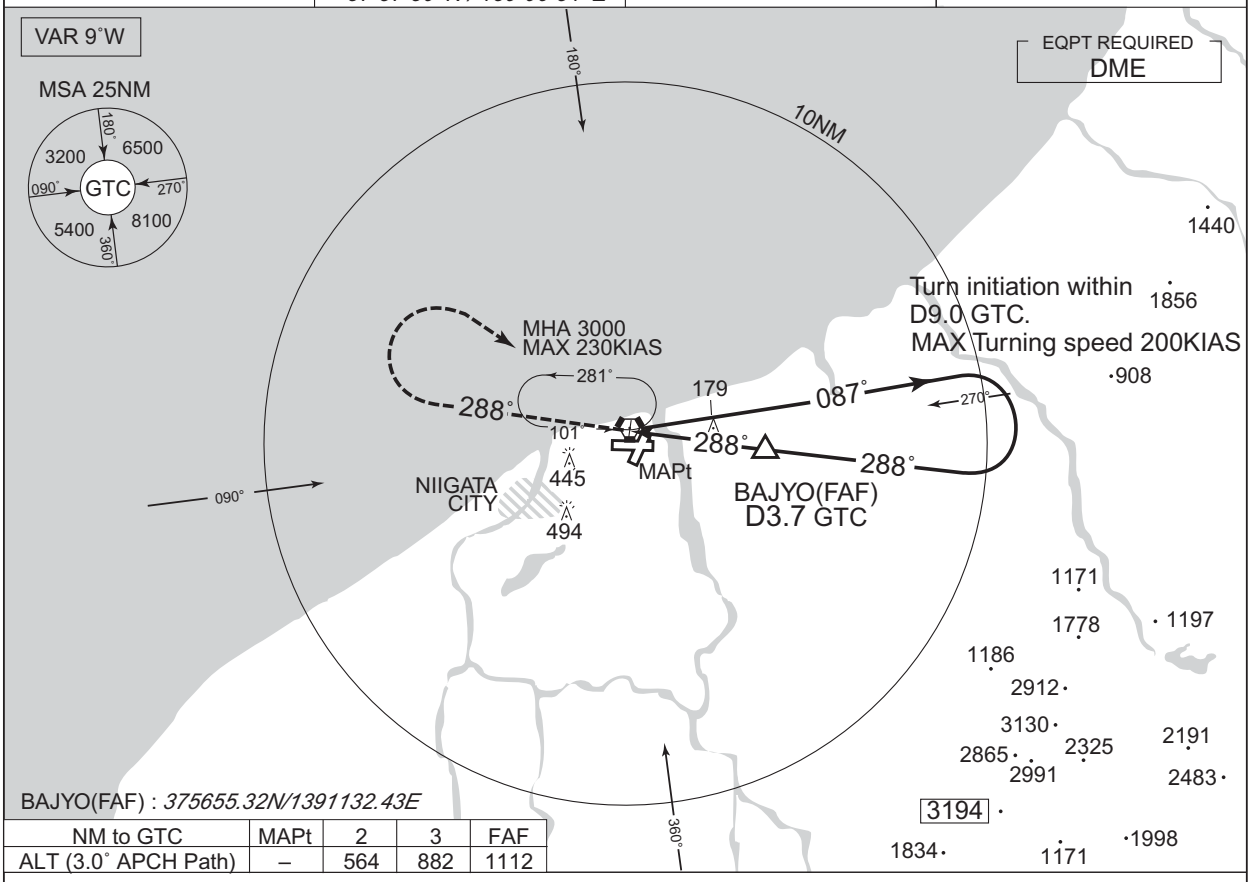
MINIMA with Missed APCH climb gradient of 2.5% are not established.

CHANGE : MSA(BTN 270˚and 360˚). PROC course. Missed APCH course. HLDG course.

**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA VOR RWY28

| NIIGATA APP | NIIGATA VORTAC | NIIGATA TOWER | RADAR AVAILABLE |
|---|---|---|---|
| 121.4 | 115.5 GTC<br>CH–102X<br>37°57′30″N / 139°06′54″E | 118.0 – 126.2 | ATIS 128.45 |

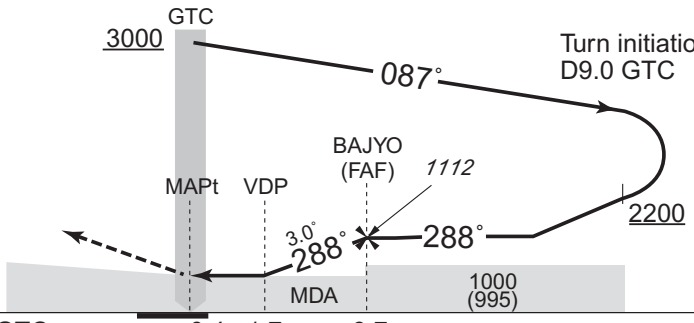



| NM to GTC | MAPt | 2 | 3 | FAF |
|---|---|---|---|---|
| ALT (3.0° APCH Path) | – | 564 | 882 | 1112 |

MISSED APPROACH

Climb to 2000FT via GTC R288,
turn right, direct to GTC VORTAC
and hold at 3000FT.
Contact NIIGATA APP.

Timing not authorized for defining the MAPt.




| DME to GTC | 0.4 | 1.7 | 3.7 |
|---|---|---|---|
| NM to THR | 0 | 1.3 | 3.3 |

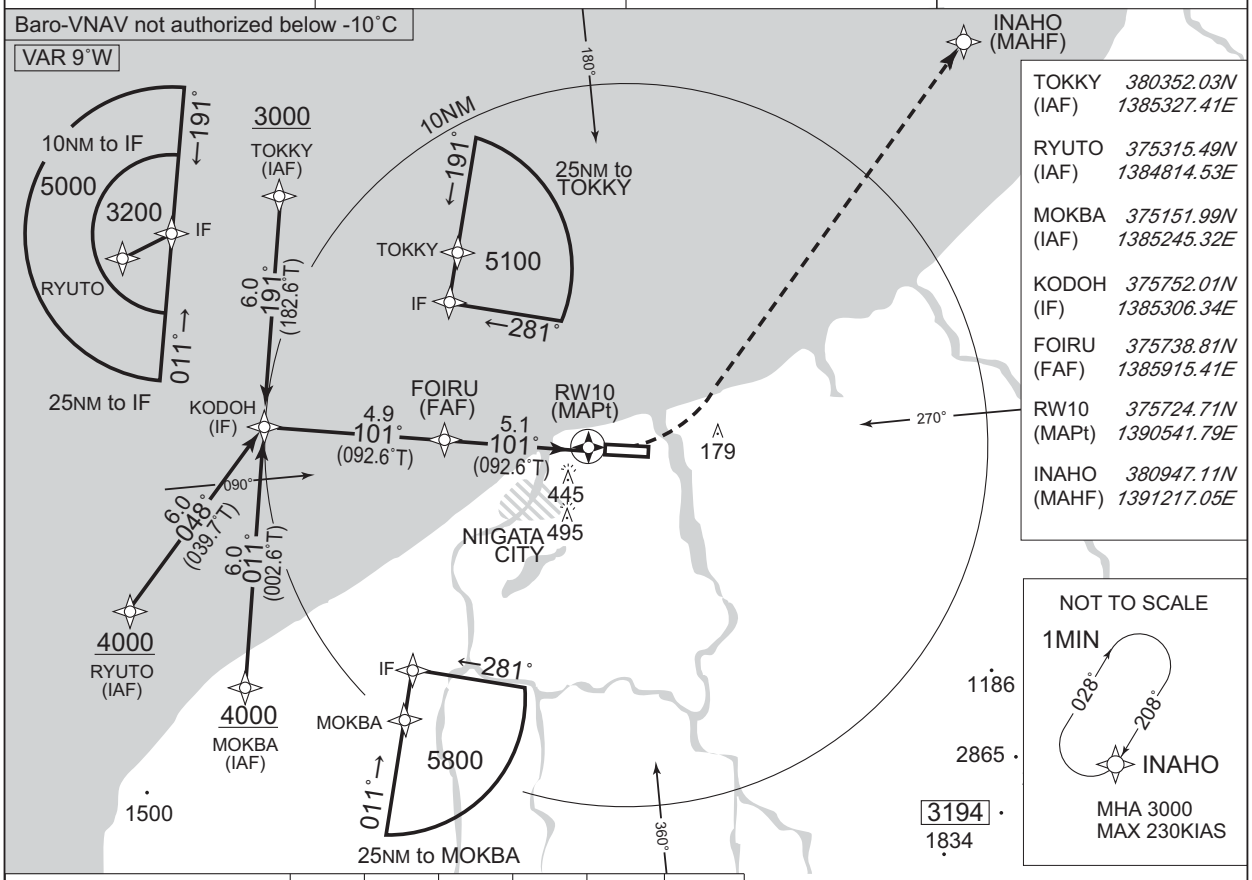
| MINIMA | THR elev. 10 | | AD elev. 5 | |
|---|---|---|---|---|
| CAT | | | CIRCLING | |
| | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 450 (445) | 1200 | 710 (705) | 1600 |
| B | | 1300 | | |
| C | | 1400 | 790 (785) | 2400 |
| D | | 1600 | | 3200 |

CHANGE : MSA(BTN 270°and 360°). PROC course. Missed APCH course. HLDG course.

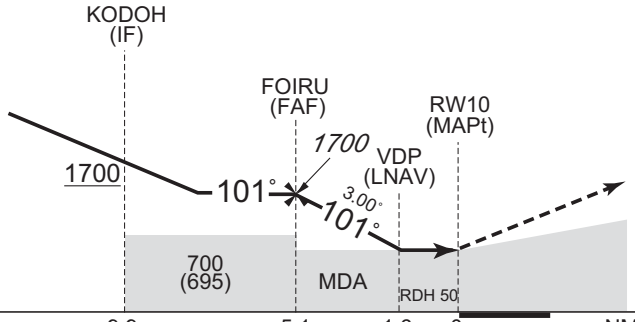
**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA RNP Z RWY10

| NIIGATA APP | RNP APCH | NIIGATA TOWER | RADAR AVBL |
|---|---|---|---|
| 121.4 | | 118.0 – 126.2 | ATIS 128.45 |




| NM To Next Fix | FAF | 5 | 4 | 3 | 2 | MAPt |
|---|---|---|---|---|---|---|
| ALT (3.0˚ APCH Path) | 1700 | 1669 | 1350 | 1032 | 713 | – |




MISSED APPROACH

Turn left, direct to INAHO
and hold at 3000FT.
Contact NIIGATA APP.

MINIMA THR elev. 27 AD elev. 5

| CAT | LNAV/VNAV | | LNAV | | CIRCLING | |
|---|---|---|---|---|---|---|
| | DA(H) | CMV | MDA(H) | CMV | MDA(H) | VIS |
| A | 580 (553) | 1400 | 580 (575) | 1400 | 710 (705) | 1600 |
| B | | 1500 | | 1500 | | |
| C | | 1600 | | 1600 | 790 (785) | 2400 |
| D | | 1800 | | 1800 | | 3200 |

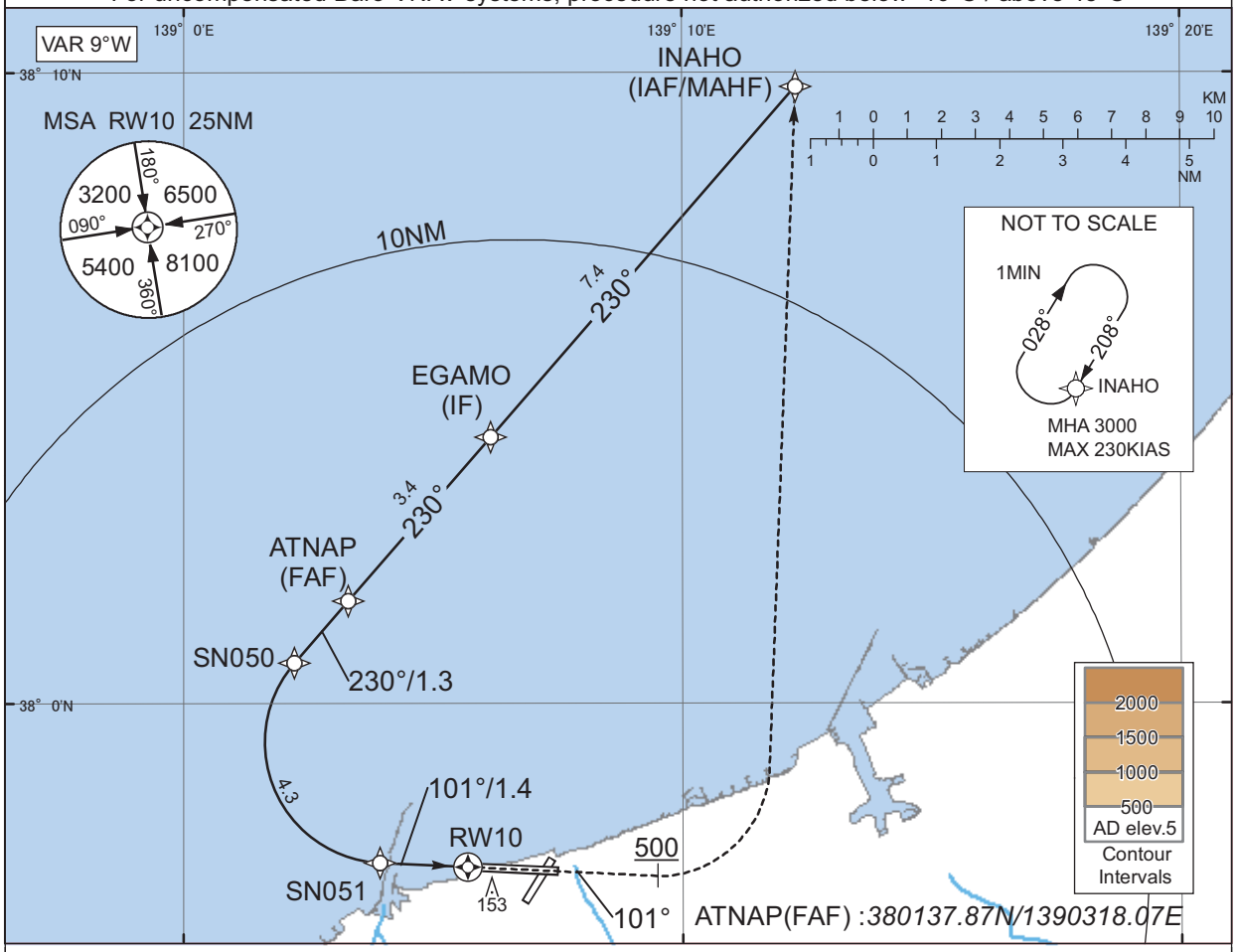
CHANGE : PROC renamed.

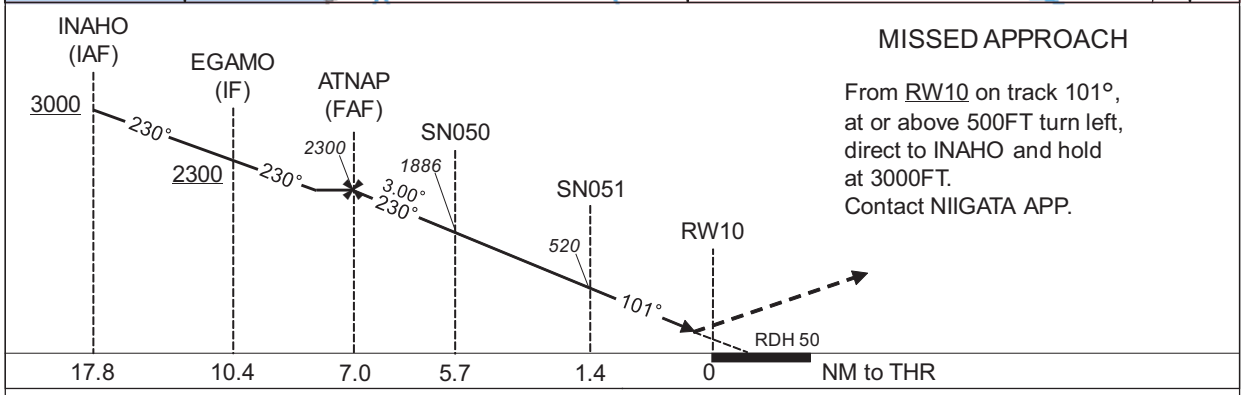
**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA — RNP Y RWY10(AR)

| NIIGATA APP<br>121.4 | RNP AR<br>RF required. | NIIGATA TOWER<br>118.0 – 126.2 | RADAR AVBL<br>ATIS 128.45 |
|---|---|---|---|

For uncompensated Baro-VNAV systems, procedure not authorized below -10°C / above 45°C




MISSED APPROACH

From RW10 on track 101°,
at or above 500FT turn left,
direct to INAHO and hold
at 3000FT.
Contact NIIGATA APP.

| MINIMA | THR elev. 27 | AD elev. 5 |
|---|---|---|
| CAT | RNP 0.30 | |
| | DA(H) | CMV |
| A | - | - |
| B | | |
| C | 305(278) | 1200 |
| D | 315(288) | 1400 |

**Authorization Required**

CHANGE : New PROC.

INSTRUMENT APPROACH CHART

RJSN / NIIGATA RNP Y RWY10(AR)

Coding Table

| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | VPA/ RDH (°/FT) | RNP Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | IF | INAHO | - | - | -8.6 | - | - | +3000 | - | - | - |
| 002 | TF | EGAMO | - | 230 (221.0) | -8.6 | 7.4 | - | +2300 | - | - | 1.0 |
| 003 | TF | ATNAP | - | 230 (220.9) | -8.6 | 3.4 | - | 2300 | - | - | 1.0 |
| 004 | TF | SN050 | - | 230 (220.9) | -8.6 | 1.3 | - | 1886 | - | -3.00 | 0.3 |
| 005 | RF Center: SNRF1 r=1.91NM | SN051 | - | - | -8.6 | 4.3 | L | 520 | - | -3.00 | 0.3 |
| 006 | TF | RW10 | Y | 101 (092.7) | -8.6 | 1.4 | - | 77 | - | -3.00/50 | 0.3 |
| 007 | FA | - | - | 101 (092.7) | -8.6 | - | - | +500 | - | - | 1.0 |
| 008 | DF | INAHO | - | - | -8.6 | - | L | 3000 | - | - | 1.0 |

| Path | Waypoint Identifier | Inbound Course °M(°T) | Magnetic Variation | Outbound Time (MIN) | Turn Direction | Minimum Altitude (FT) | Maximum Altitude (FT) | Speed (KIAS) | RNP Value |
|---|---|---|---|---|---|---|---|---|---|
| Hold | INAHO | 208 (199.1) | -8.6 | 1.0 (-14000) | R | 3000 | FL140 | -230 (-14000) | 1.0 |

Waypoint Coordinates

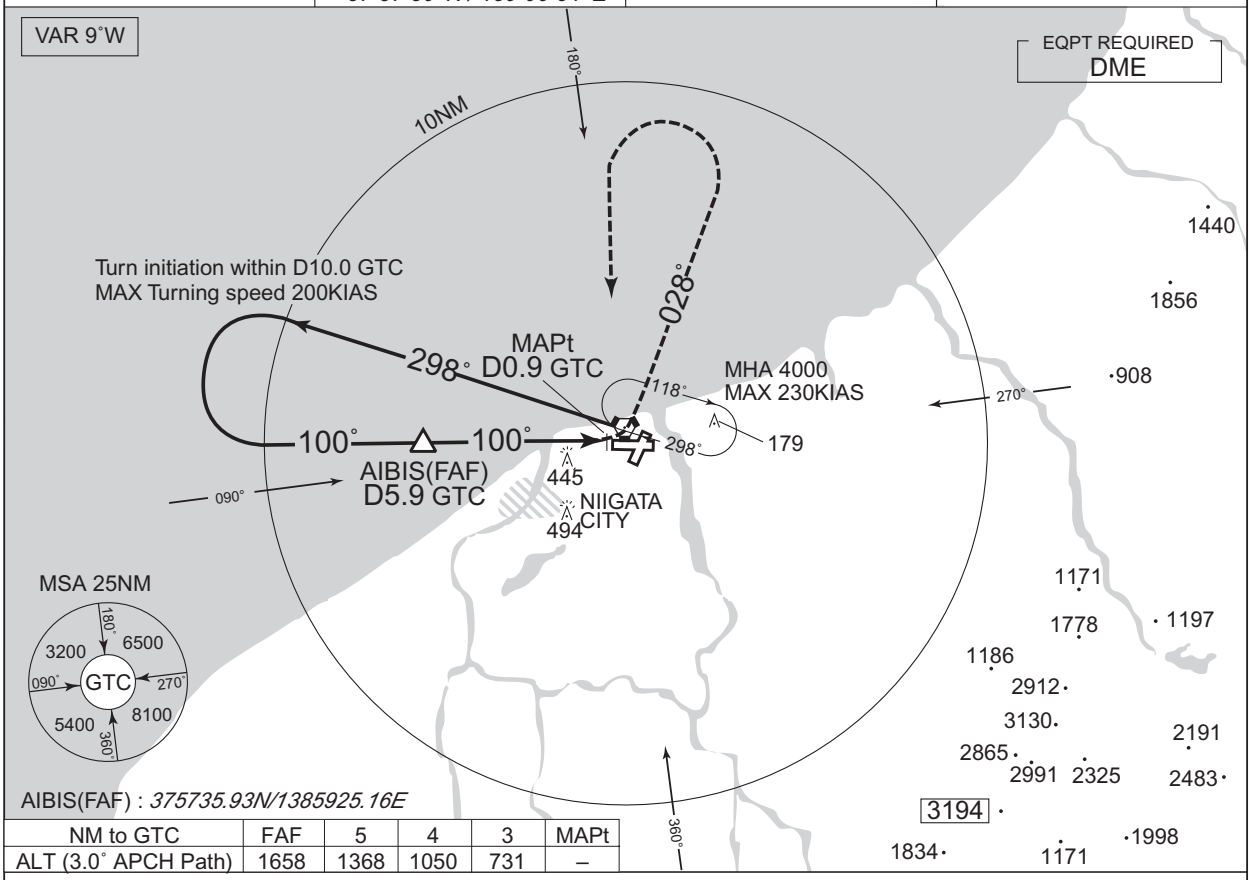
| Waypoint Identifier | Coordinates | RF Arc Center Identifier | Coordinates |
|---|---|---|---|
| INAHO | *380947.11N / 1391217.05E* | SNRF1 | *375923.46N / 1390402.94E* |
| EGAMO | *380413.79N / 1390609.55E* | | |
| ATNAP | *380137.87N / 1390318.07E* | | |
| SN050 | *380038.89N / 1390213.27E* | | |
| SN051 | *375728.60N / 1390356.21E* | | |
| RW10 | *375724.71N / 1390541.79E* | | |

CHANGE : New PROC.

**INSTRUMENT APPROACH CHART**

RJSN / NIIGATA VOR RWY10

| NIIGATA APP | NIIGATA VORTAC | NIIGATA TOWER | RADAR AVAILABLE |
|---|---|---|---|
| 121.4 | 115.5 GTC<br>CH–102X<br>*37°57′30″N / 139°06′54″E* | 118.0 – 126.2 | ATIS 128.45 |

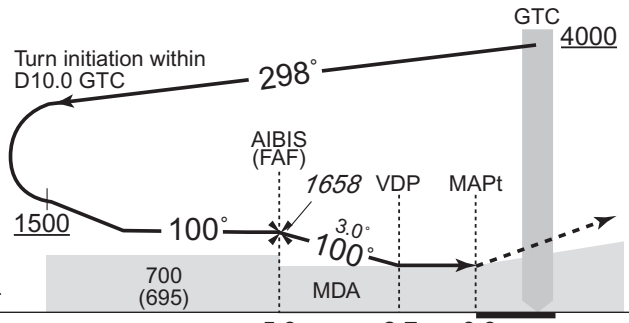



| NM to GTC | FAF | 5 | 4 | 3 | MAPt |
|---|---|---|---|---|---|
| ALT (3.0° APCH Path) | 1658 | 1368 | 1050 | 731 | – |

MISSED APPROACH

Turn left, climb to 2000FT via GTC R028, turn left, direct to GTC VORTAC and hold at 4000FT.
Contact NIIGATA APP.

Timing not authorized for defining the MAPt.




| MINIMA | THR elev. 27 | | AD elev. 5 | |
|---|---|---|---|---|
| CAT | | | CIRCLING | |
| | MDA(H) | CMV | MDA(H) | VIS |
| A | 630 (625) | 1400 | 710 (705) | 1600 |
| B | | 1500 | | |
| C | | 1600 | 790 (785) | 2400 |
| D | | 1800 | | 3200 |

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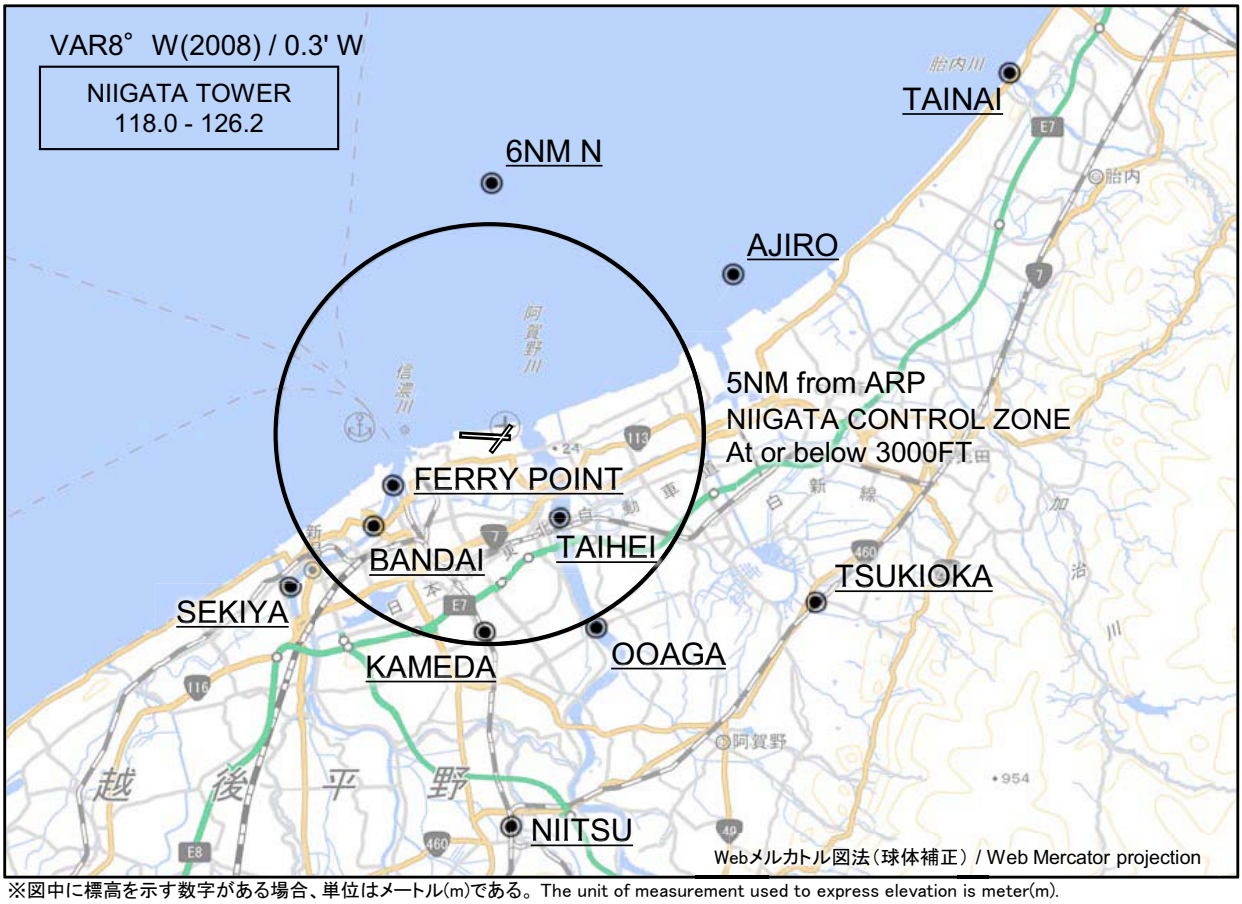
RJSN / NIIGATA

Visual REP



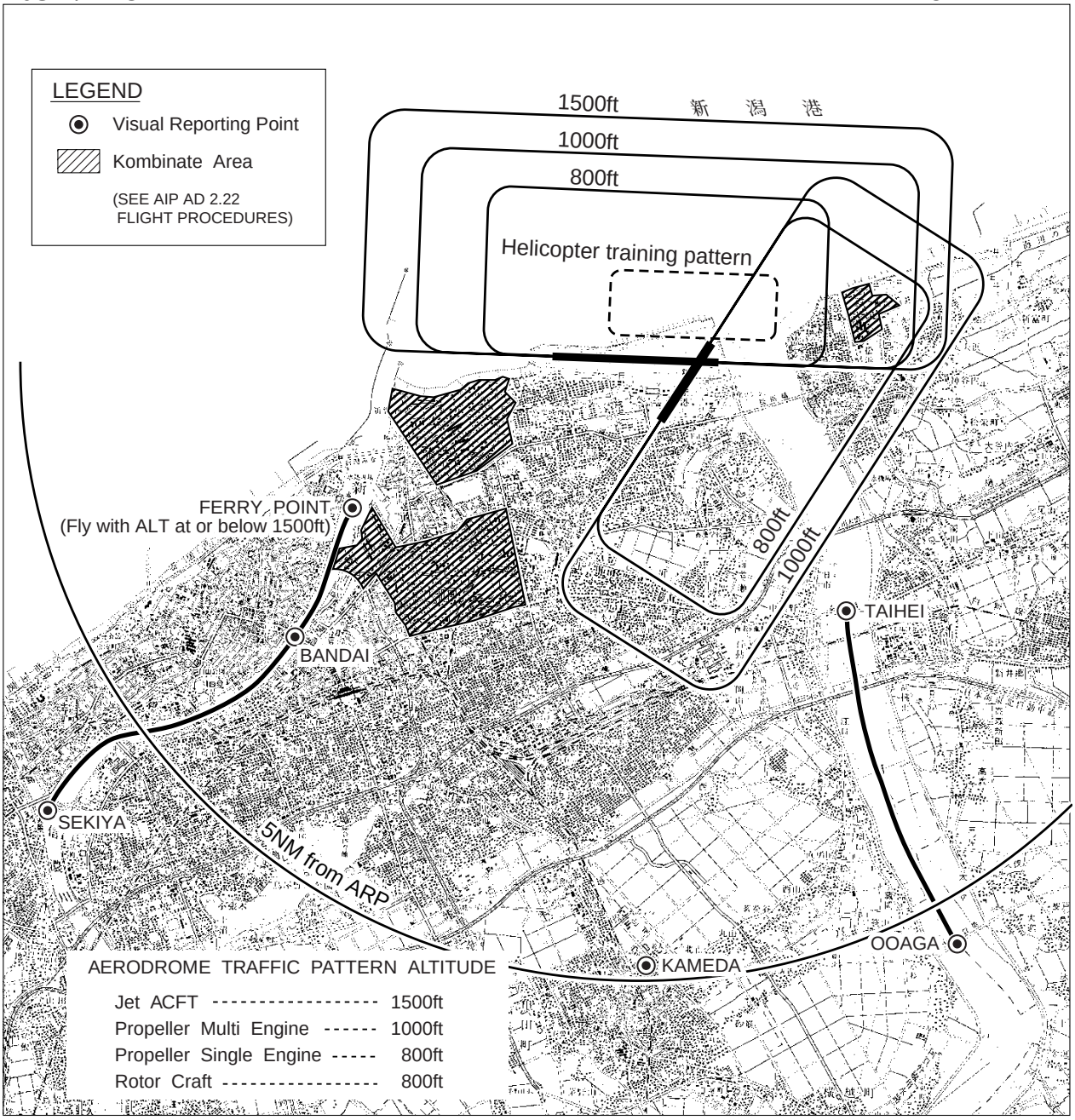

※図中に標高を示す数字がある場合、単位はメートル(m)である。The unit of measurement used to express elevation is meter(m).

CHANGE : Map updated. BRG/DIST from ARP.

| Call sign | BRG / DIST from ARP | Remarks |
|---|---|---|
| 胎内<br>Tainai | 054°T / 14.9NM | 胎内川河口<br>River-mouth |
| 6NM N | 360°T / 6.0NM | 海上<br>Over the sea |
| 網代<br>Ajiro | 056°T / 6.9NM | 防波堤突端の赤色灯台<br>Red lighthouse at the tip of breakwater |
| *フェリーポイント<br>Ferry point | 243°T / 2.6NM | 万代橋より信濃川下流2kmの地点<br>（1,500FT以下で通過すること）<br>The point 2km down the Shinano from the Bandai Bridge.(Fly with ALT at or below 1500FT) |
| *泰平<br>Taihei | 141°T / 2.5NM | 橋<br>Bridge |
| *万代<br>Bandai | 232°T / 3.5NM | 橋<br>Bridge |
| 関屋<br>Sekiya | 232°T / 6.0NM | 分水路への分岐点<br>Diverging-point for Flood-control channel |
| 月岡<br>Tsukioka | 118°T / 8.6NM | JR駅<br>Station |
| 大阿賀<br>Ooaga | 152°T / 5.2NM | 橋<br>Bridge |
| 亀田<br>Kameda | 182°T / 4.7NM | JR駅<br>Station |
| 新津<br>Niitsu | 177°T / 9.4NM | JR駅<br>Station |

*ヘリコプター Use for helicopter

RJSN / NIIGATA TFC PATTERN




阿賀野ルート：大阿賀～泰平間の阿賀野川に沿う飛行経路（回転翼航空機用）

AGANO ROUTE : The route along Agano river between OOAGA and TAIHEI (Use for Rotor Craft)

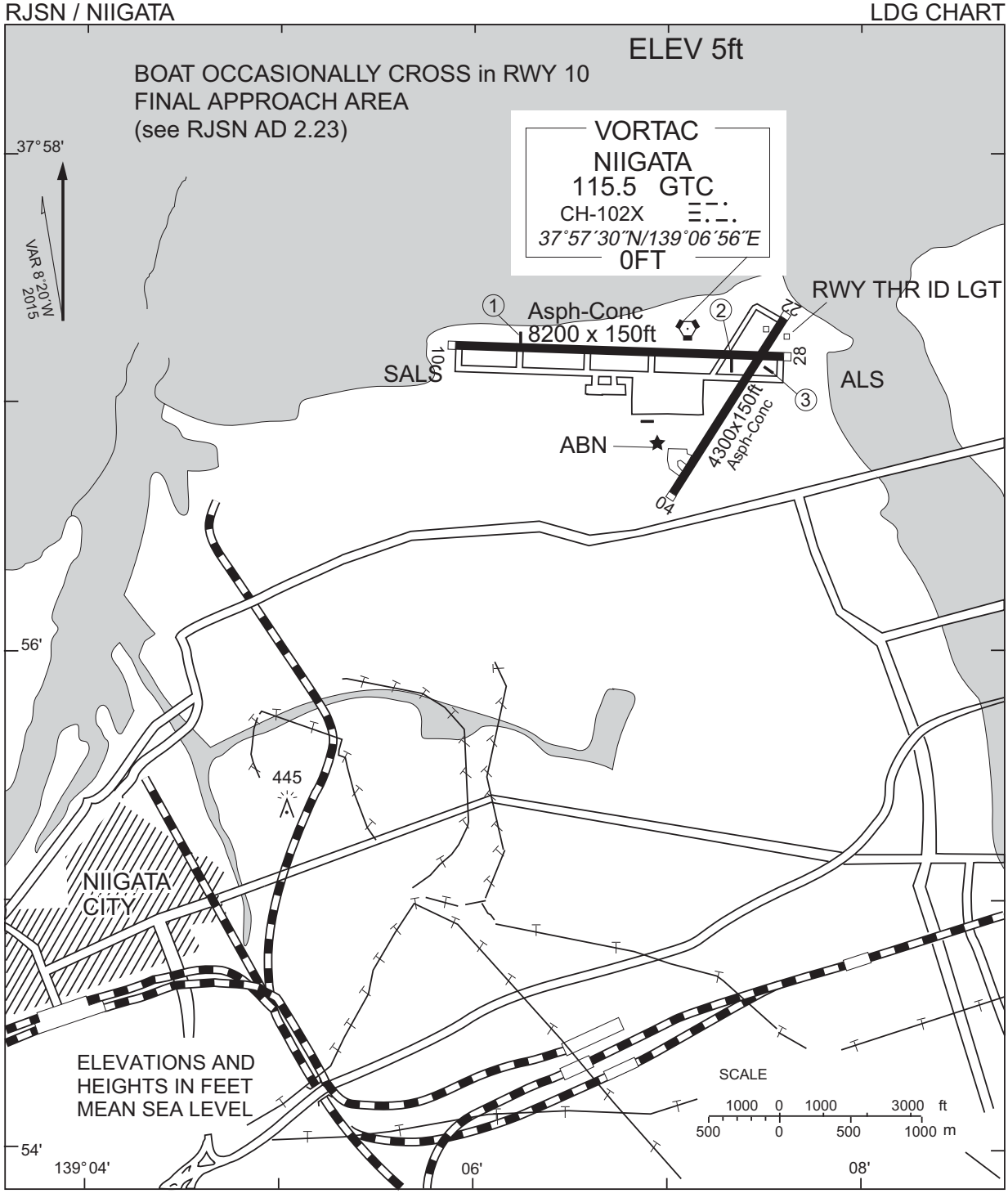
信濃ルート：関屋～万代～フェリーポイント間の信濃川に沿う飛行経路（回転翼航空機用）

SHINANO ROUTE : The route along Shinano river between SEKIYA, BANDAI and FERRY POINT (Use for Rotor Craft)

※新潟タワーから上記ルートによる飛行の指示があった場合、VFR回転翼航空機は空港周辺における航空機騒音軽減のためVMCを維持できない場合を除き可能な限り当該ルートに沿って飛行することが望ましい。

※In order to reduce aircraft noise in the vicinity of airport, VFR Rotor Craft is expected to follow the above mentioned route when insrtucted by Niigata tower. (except the case of IMC)

RJSN / NIIGATA LDG CHART




CHANGE : PAPI for RWY10, RWY28(MEHT, DIST FM THR).

| ①RWY10: | ②RWY28: | ③RWY22: |
|---|---|---|
| Angle 3.0° | Angle 3.0° | Angle 3.0° |
| MEHT 22.9m (75ft) | MEHT 19.9m (65ft) | MEHT 18.6m (61ft) |
| 535m inside fm THR | 455m inside fm THR | 361m inside fm THR |

RJSN / NIIGATA Minimum Vectoring Altitude CHART