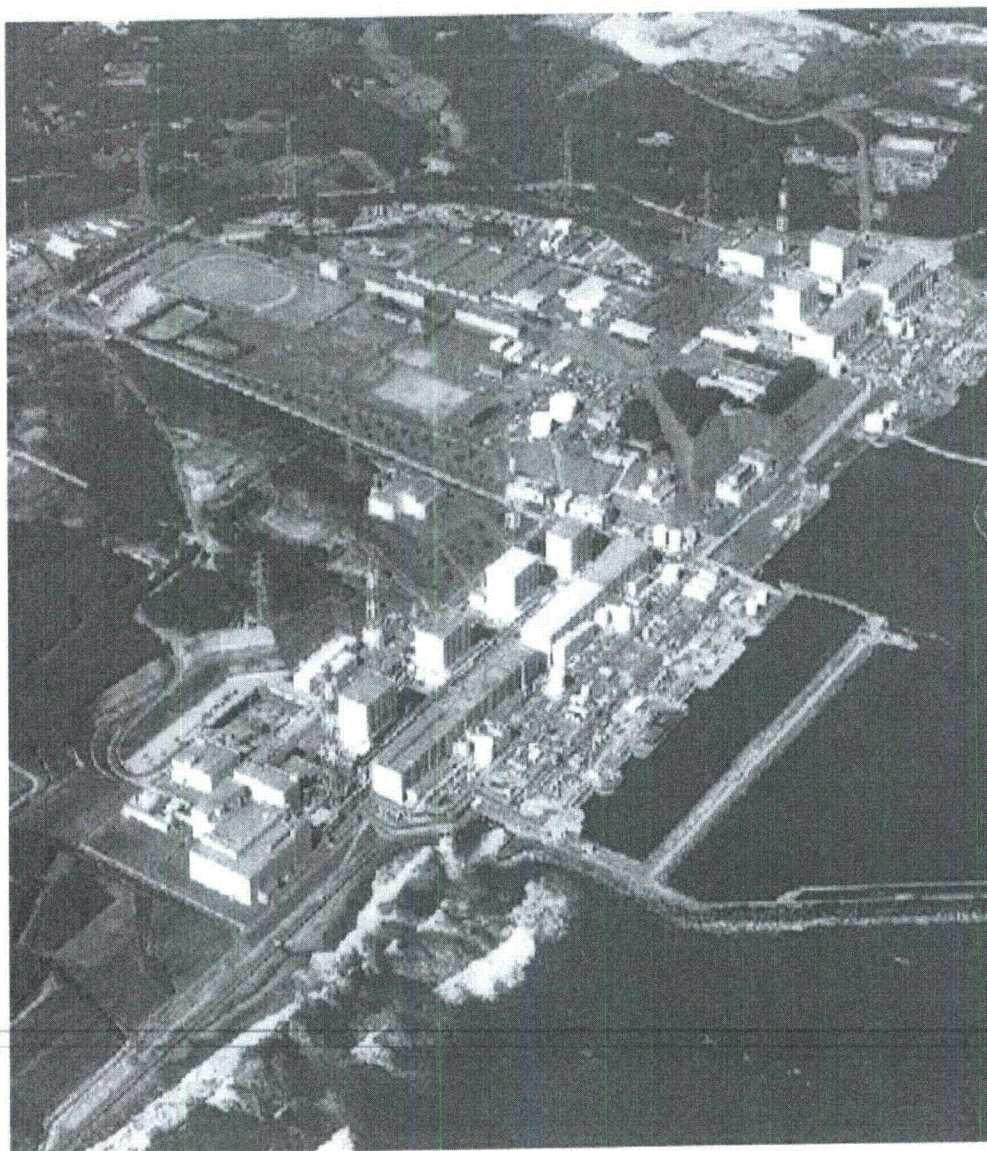




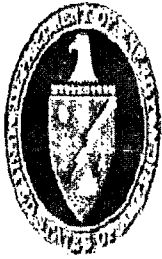
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Japan Earthquake Response

March 31, 2011 // 1800 EDT



~~Official Use Only~~



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distribution to those with a
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**and should not be forwarded outside
your agency or organization without
prior clearance from U.S. DOE**

**Contact: DOE/NNSA Nuclear Incident
Team: NITOPS@nnsa.doe.gov**



~~Official Use Only~~

Current Status

- ♦ **No major changes in radiation levels at the Fukushima Daiichi Nuclear Power Plant**
- ♦ **Additional power plant status in accompanying text SITREP**
 - Unit 1: The IAEA confirmed that the reactor temperature has decreased slightly. Reactor water level stable, core damage est. 70%. Freshwater injection continues. Electrical power line connected (through Unit 2). Condenser is full, so pumping turbine basement halted at 2230 UTC on 28 Mar.
 - Unit 2: Reactor water level stable, core damage est. 33%. Spent fuel pool has been filled. TEPCO reports having switched over to utilizing a temporary electrical pump to inject fresh water into Unit 2, in place of the fire pump that had previously been used.
 - Unit 3: Freshwater injection continues; trucks pumping water into spent fuel pools. reactor water level 1.9 m (A) 2.3 m (B) below the top of the fuel rods.
 - Unit 4: Spraying continues periodically for the spent fuel pond. Power restored. Trucks pumping water into spent fuel pools; seawater is also being injected via the Fuel Pool Cooling System (FPC).
- ♦ **TEPCO continues to address issues with water in the trenches outside the turbine buildings of Units 2 and 3**
 - The Nuclear Safety Commission of Japan suggests that higher activity in the water discovered in the Unit 2 turbine building is supposed to be caused by water, which has been in contact with molten fuel rods for a time and directly released into the turbine building via some, as yet unidentified, path
- ♦ **Voluntary evacuation zone extended to 30km from Fukushima Daiichi.**

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DOE/NNSA Response

♦ Command, Control, Coordination:

- **Nuclear Incident Team (NIT):** Coordinating overall emergency response
- **Policy Working Group (PWG):** Coordinating overall policy
- **Senior Energy Official:** Primary Manager of deployed field teams
- **Liaisons:** DART, USPACOM, USAID, NRC

♦ Modeling

- **National Atmospheric Release Advisory Center (NARAC):** conducting predictive radioactive atmospheric dispersion modeling

♦ Monitoring and Sampling

- **Consequence Management Response Team (CMRT):** Conducting ground monitoring, air sampling and initial results analysis
- **Aerial Monitoring System (AMS):** Conducts aerial detection for mapping radiological ground material deposits
- Currently 3 platforms: 1 Fixed, 2 Rotary

♦ Assessment

- **Consequence Management Home Team (CMHT):** Scientific assessment of data updated daily from ground measurements and AMS flights

♦ Medical Consultation

- **Radiation Emergency Assistance Center/Training Site (REAC/TS):** Providing medical advice about radiological exposure

Deployed (40)

Yokota AB

- (1) SEO
- (1) SEO Staff
- (24) CMRT
- (9) AMS

US Embassy Tokyo

- (3) DART LNO
- (1) Nuclear Energy Representative

USPACOM HQ

- (1) LNO



Official Use Only

Significant Events: Past 24 Hrs.

All March 31 AMS flights cancelled by DoD due to high winds and rain

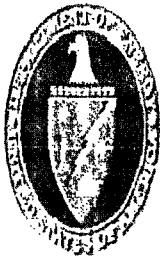
International Engagement:

- ♦ Participated in Health Working Group meetings on long term monitoring for health effects
- ♦ Discussed monitoring strategies and coordination with MEXT
- ♦ Received request from the Japanese Government to assist in plume/dose reconstruction of impacted population
- ♦ Plume modeling DEW Line Meeting with RCMT at Yokota

Nuclear Incident Team:

- ♦ Released shape files for use by NGA and USGS
- ♦ Provided ground monitoring and aerial measuring data spreadsheets to CDC, FDA, HHS, USDA, EPA, NRC, DHS, NR, and WH
- ♦ Technical review of Draft Reentry Guidance

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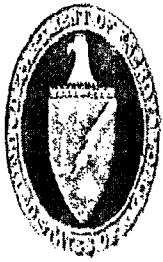


~~Official Use Only~~

Significant Events: Past 24 Hrs.

Operations:

- ♦ Modeling
 - NARAC: Continued work on products normalizing NARAC models to measurements taken in the field.
- ♦ Field Monitoring and Assessment
 - Continued monitoring activities at the US Embassy Japan
 - Continued to coordinate with USFJ and GOJ to implement the Distance Early Warning Line
 - Two ground teams drove in the Mito area and the valley northwest of Tokyo in the Takasaki/Maebashi region at the request of GOJ and conducted beta/gamma surveys, HPGe in-situ gamma spectrum and low-volume air sample for particulate/iodine
- ♦ Medical Consult
 - REAC/TS provided information regarding population monitoring considerations and screening strategies to share with GOJ if requested.
 - Tasked to participate in the Health Group meeting
 - REAC/TS provided advice on passenger screening on a CDC teleconference
 - Responded to RFI on bioassay for U.S. workers deployed to Japan



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Data Providers

♦ Japan

- Ministry of Foreign Affairs (MOFA)
- Nuclear Safety Technology Center (NUSTEC)
- Tokyo Electric Power Company (TEPCO)
- Ministry of Agriculture, Forestry and Fisheries (MAFF)
- Ministry of Education, Culture, Sports, Science, and Technology (MEXT)
- Ministry of Health, Welfare and Labor
- Nuclear and Industrial Safety Agency (NISA)
- Nuclear Safety Commission

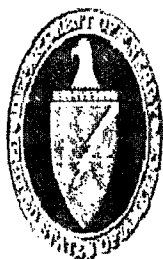
♦ Consequence Management Response Team

- CMRT/CMOC
- AMS
- AFRAT

♦ External US

- Japan Emergency Command Center, US Embassy, Tokyo
- USAF, BSC Commander
- USAF, WC-135 Constant Phoenix
- Futenma Marine Corps Air Station
- Nuclear Regulatory Commission
- Naval Reactors

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Guide to Interpretation

US EPA Derived Response Levels (DRLs) for Evacuation and Relocation

■ Early Phase DRL

If a person is in danger of receiving an external radiation dose of 1 Rem over 4 days, the EPA recommends evacuation until radiation levels decrease. This area is indicated by red.

First Year DRL

If a person is in danger of receiving an external radiation dose greater than 2 Rem during the first year, the EPA recommends relocation until radiation levels decrease. This is not an urgent action because the dose is received over a full year. This area is indicated by orange.

Fifty Year DRL

If a person is in danger of receiving an external radiation dose greater than 5 Rem over 50 years, the EPA recommends relocation until radiation levels decrease. This is not an urgent action because the dose is received over fifty years. This area falls within the second year DRL.

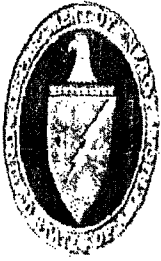
Second Year DRL

If a person is in danger of receiving an external radiation dose of greater than 0.5 Rem in the second year (or any subsequent year), the EPA recommends relocation until radiation levels decrease. This area is indicated by yellow.

These calculations account for multiple variables. For instance, radiation is most intense in the first days following its release therefore dose reduction may be met by evacuating early in the response.

Protective actions are frequently expressed in dose rates. The dose rate is an indicator that residents would accumulate the threshold dose if they stayed in the area the entire time expressed (e.g. 1 year, 2 years, 50 years)

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Guide to Interpretation

Areas at Risk for Agricultural Contamination

Aerial measurements can indicate areas where agricultural monitoring and sampling should occur, although they cannot directly determine the amount of contamination of agricultural products grown in these areas.

AMS monitoring results in areas beyond 25 miles from the Fukushima Daiichi reactors show areas where dose rates are many times higher than historical background.

The measured external dose rates in these areas are not high enough to warrant evacuation or relocation of the population, however, lower levels of radioactive contamination in agricultural products provide more of a risk because the radioactive material can be ingested into the body. Agricultural monitoring in these areas may be warranted.

◆ Areas 10 to 100 times historical background are indicated by green.

◆ Areas 2 to 10 times historical background are indicated by light blue.

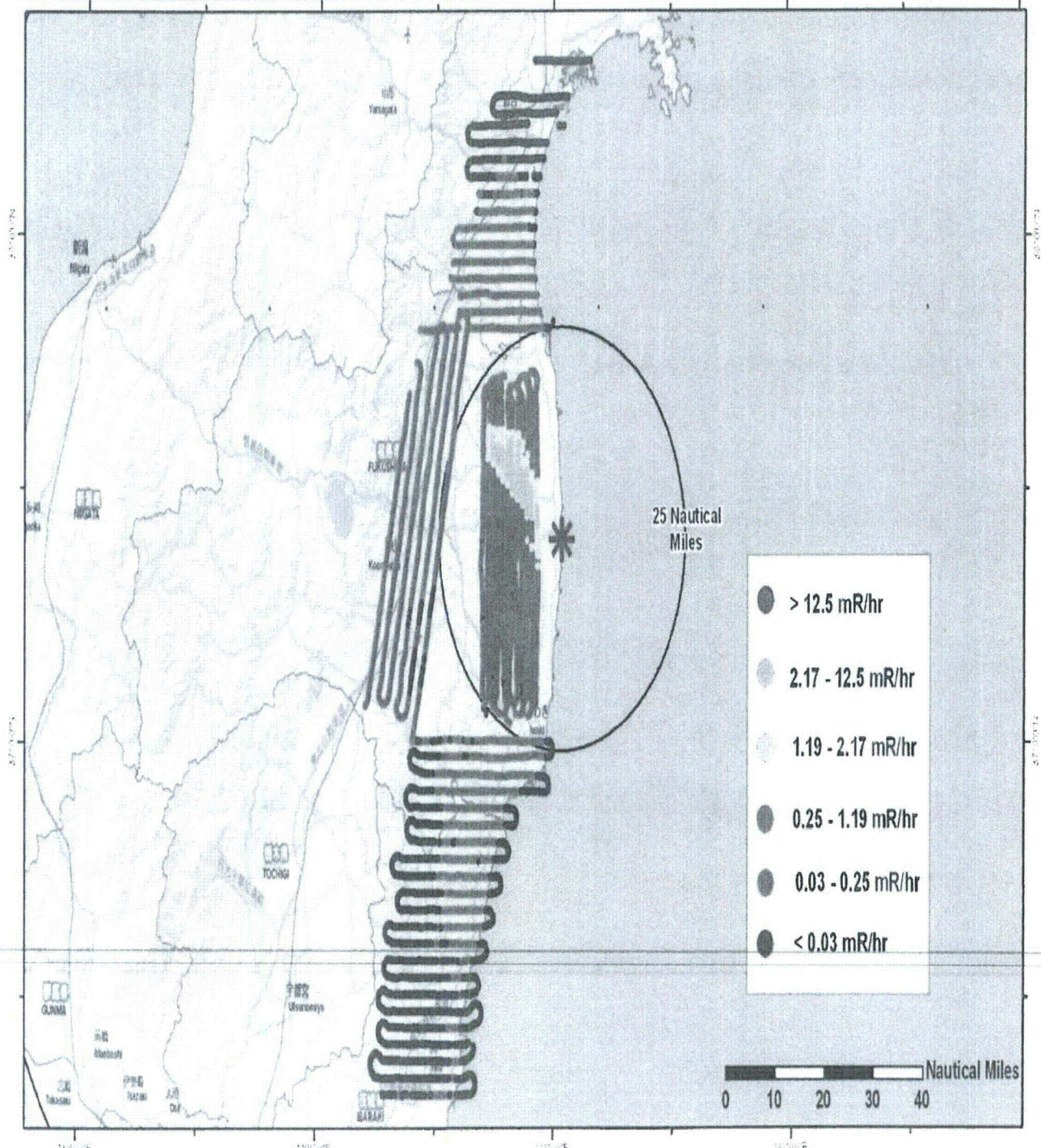
◆ Areas at or near historical background are indicated by dark blue.

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Aerial Results C-12 Flights (March 27, 28, 29, 2011)

FUKUSHIMA DAIICHI
JAPAN



Map created on 03302011 0315 JST
Name: NIT 29Mar2011 Combined Flights 0327_0329

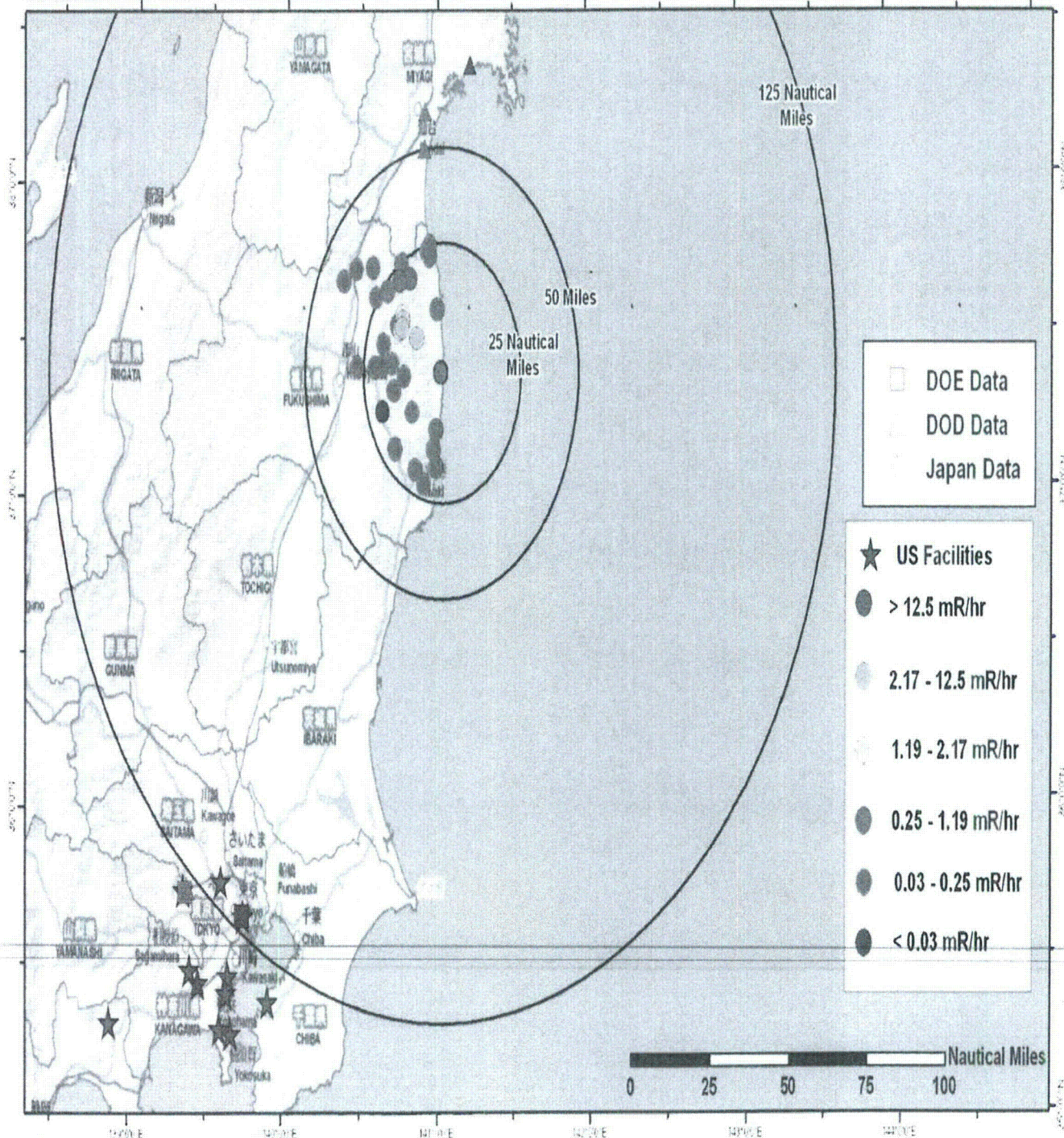
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Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



Field Monitoring Results March 31 01:00 to April 1 01:00 JST

FUKUSHIMA DAIICHI
JAPAN



Map created on 04012011 0200 JST
Name: NIT 24hrsMonitoringResults 31Mar2011 0100

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Contact (202) 586 - 8100



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Aerial and Ground Monitoring Data Assessment

Assessment:

- ♦ An assessment of measurements gathered through 01 April continue to show:
 - Radiation levels consistently below actionable levels for evacuation or relocation outside of 25 miles.
 - Radiological material has not deposited in significant quantities in the areas measured since 19 March
-

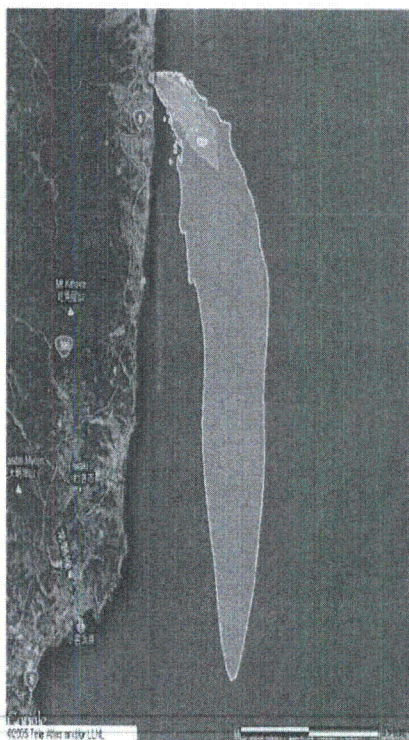
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Forecasted Weather April 1 to April 2

04/01/2011 07:00:00 JST



04/01/2011 13:00:00 JST



04/02/2011 05:00:00 JST



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Planned Operations: Next 24 Hrs

♦ Aerial Monitoring

- AMS conduct measurements West of Fukushima NPP and Marine bases at and west of Sendai not exceeding their turn back levels
- AMS UH-1: Fly the southern half of the Tohoku expressway south Koriyama to the hills north of Kuroiso to complete planned mission from 3/30.
- AMS HH-60: Fly the southern half of the Tohoku Expressway north of Koriyama to the north side of Fukushima to complete planned mission from 3/30.
- AMS C-12: Concentrate on the valley metro area of north Tokyo across the valley flying east to west at the request of GOJ.

♦ Ground Monitoring

- Drive to the east side of Tokyo Bay to Choshi, drive up the coast to the Tokai NPP then return
- One ground team will travel to Yokosuka to collect air samples

♦ Continue joint Monitoring and Assessment planning with DoD (US AFRAT).

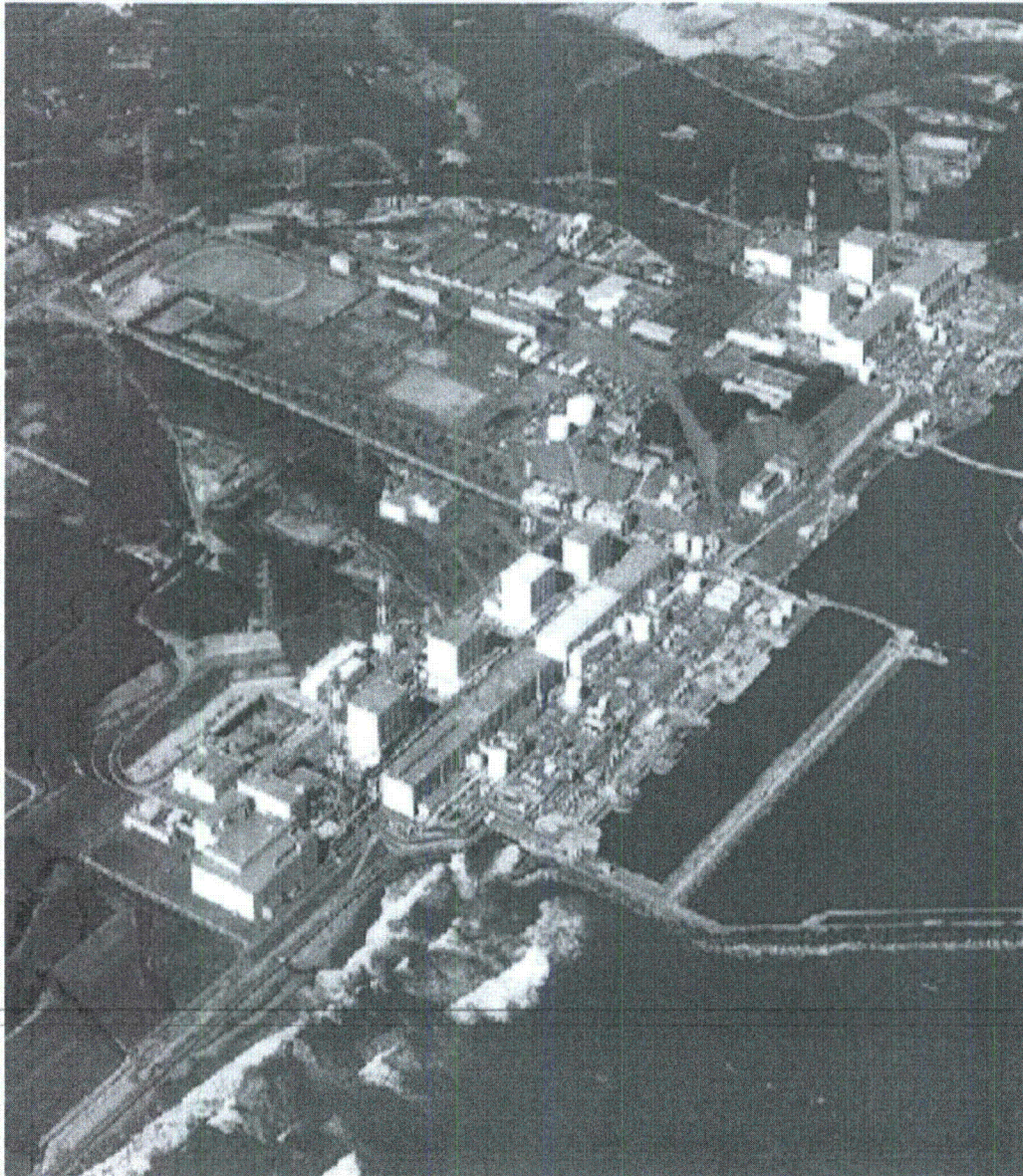
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Japan Earthquake Response

March 29, 2011 // 0600 EDT



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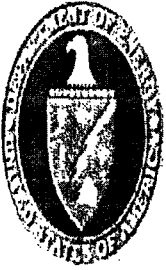


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**Contact: DOE/NNSA Nuclear Incident
Team: NITOPS@nnsa.doe.gov**

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Current Status

No major changes in radiation levels at the Fukushima Daiichi Nuclear Power Plant

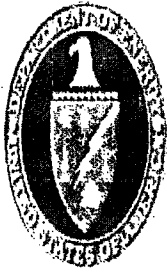
Additional power plant status in accompanying text SITREP

- Unit 1: There are indication that the reactor temperature has increased. Reactor water level stable, core damage est. 70%. Freshwater injection continues. Electrical power line connected (through Unit 2).
- Unit 2: Reactor water level stable, core damage est. 33%. Spent fuel pool has been filled. TEPCO reports having switched over to utilizing a temporary electrical pump to inject fresh water into Unit 2, in place of the fire pump that had previously been used.
- Unit 3: Freshwater injection continues; trucks pumping water into spent fuel pools. reactor water level 1.9 m (A) 2.3 m (B) below the top of the fuel rods.
- Unit 4: Spraying continues periodically for the spent fuel pond. Power restored. Trucks pumping water into spent fuel pools; seawater is also being injected via the Fuel Pool Cooling System (FPC).

~~TEPCO continues to address issues with water in the trenches outside the turbine buildings of Units 2 and 3~~

Voluntary evacuation zone extended to 30km from Fukushima Daiichi.

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DOE/NNSA Response

• Command, Control, Coordination:

- **Nuclear Incident Team (NIT):** Coordinating overall emergency response
- **Policy Working Group (PWG):** Coordinating overall policy
- **Senior Energy Official:** Primary Manager of deployed field teams
- **Liaisons:** DART, USPACOM, USAID, NRC

• Modeling

- **National Atmospheric Release Advisory Center (NARAC):** conducting predictive radioactive atmospheric dispersion modeling

• Monitoring and Sampling

- **Consequence Management Response Team (CMRT):** Conducting ground monitoring, air sampling and initial results analysis
- **Aerial Monitoring System (AMS):** Conducts aerial detection for mapping radiological ground material deposits
- Currently 3 platforms: 1 Fixed, 2 Rotary

• Assessment

- **Consequence Management Home Team (CMHT):** Scientific assessment of data updated daily from ground measurements and AMS flights

Medical Consultation

- **Radiation Emergency Assistance Center/Training Site (REAC/TS):** Providing medical advice about radiological exposure

Deployed (39)

Yokota AB

- (1) SEO
- (1) SEO Staff
- (22) CMRT
- (6) AMS

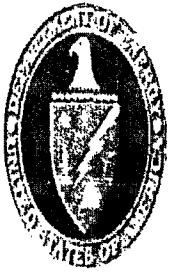
US Embassy Tokyo

- (2) Foreign Service Nationals
- (2) Permanent Staff
- (3) DART LNO
- (1) Nuclear Energy Representative

USPACOM HQ

- (1) LNO

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Significant Events: Past 24 Hrs.

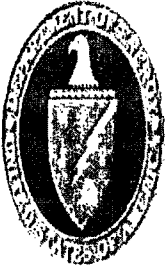
International Engagement:

- DOE attended a meeting with MOFA, MEXT/NISA, and NSC to discuss monitoring and sampling. From the meeting, DOE and MEXT agreed to increase coordination on setting monitoring priorities, conducting joint missions, and conducting twice weekly meetings
- DOE attended a meeting with MAFF to discuss monitoring, sampling, and lab analysis for agricultural interventions. MAFF is currently taking 150 soil samples in 10 prefectures and requested DOE support for Sr-90 lab analysis by mid-April in order to provide guidance prior to the rice planting season

Nuclear Incident Team

- Coordinated shape files for use by USGS & NGA
- Provided ground monitoring and aerial measuring data spreadsheets to CDC, FDA, HHS, USDA, EPA, NRC, DHS, NR, and WH
- Continued development of plan to rotate responders in country

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Significant Events: Past 24 Hrs.

Operations

Modeling

- NARAC: Developed Intermediate Phase PAGs for two hypothetical release scenarios; continued work on products normalizing NARAC models to measurements taken in the field.

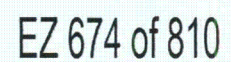
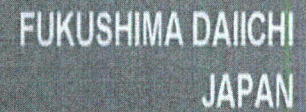
Field Monitoring and Assessment

- AMS UH-1: Flew south of the plant along the Joban Highway and Highway 49 in preparation for placement of static DOE radiation detectors; a ground team drove the same route conducting road surveys in the Kanto Prefecture
- AMS HH-60: Flew north of the plant to determine exposure rates in the valleys in preparation for placement of static DOE radiation detectors
- AMS C-12: Flew west of the power plant and re-mapped the 6-20 NM area in preparation for placement of static DOE radiation detectors
- Continued monitoring activities at the US Embassy Japan
- Continued to coordinate with USFJ and GOJ to implement the Distance Early Warning Line

Medical Consult

- REAC/TS provided information regarding population monitoring considerations and screening strategies to share with GOJ if requested.
- Tasked to participate in the Health Group meeting

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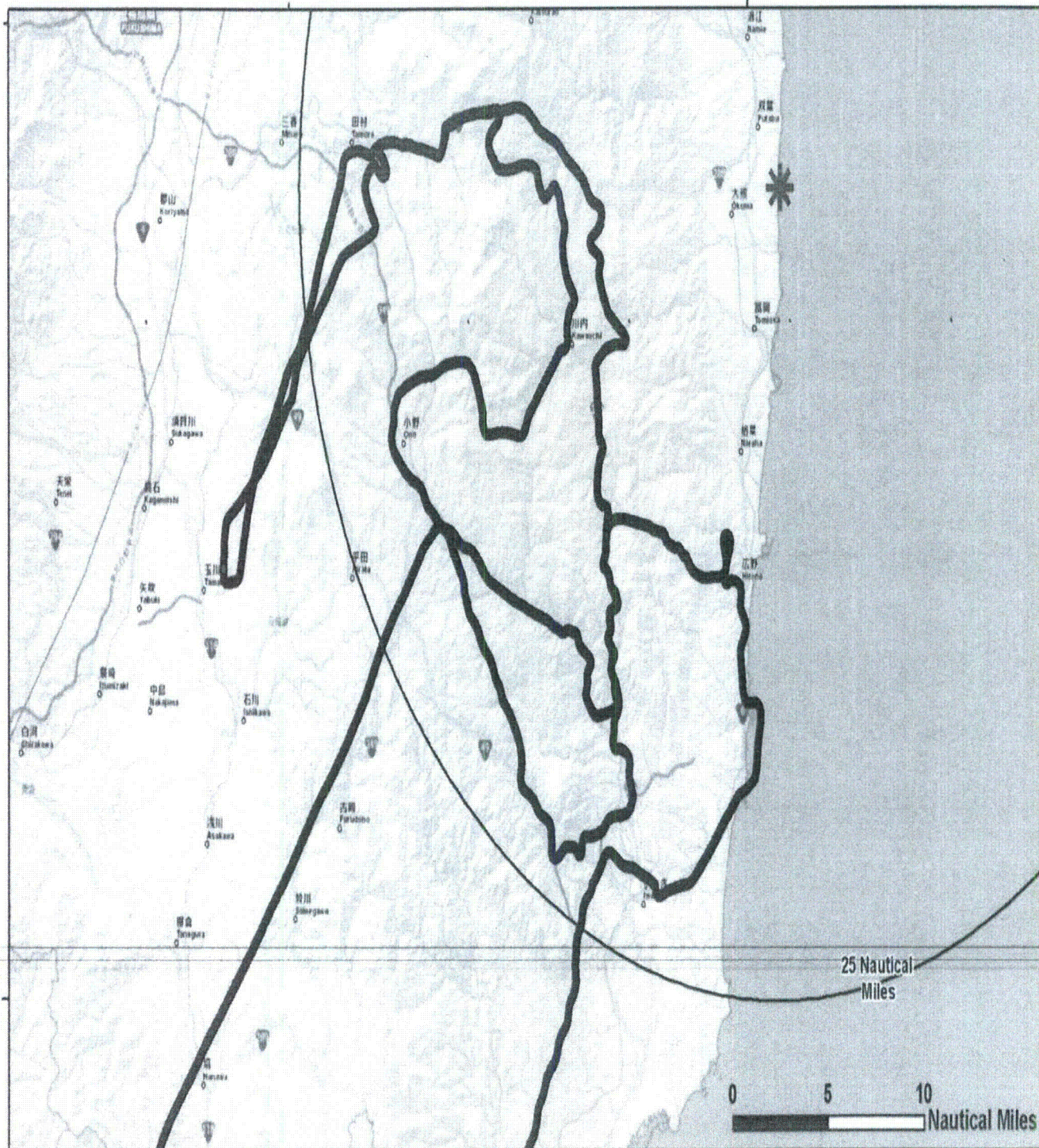




Aerial Monitoring Path UH-1

March 29, 2011

FUKUSHIMA DAIICHI
JAPAN



Map created on 03292011 1752 JST

Name: NIT UH1 29Mar2011 Path

UNCLASSIFIED

Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



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Data Providers

Japan

- Ministry of Foreign Affairs (MOFA)
- Nuclear Safety Technology Center (NUSTEC)
- Tokyo Electric Power Company (TEPCO)
- Ministry of Agriculture, Forestry and Fisheries (MAFF)
- Ministry of Education, Culture, Sports, Science, and Technology (MEXT)
- Ministry of Health, Welfare and Labor
- Nuclear and Industrial Safety Agency (NISA)
- Nuclear Safety Commission

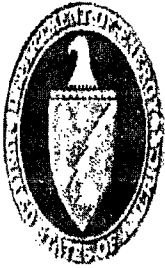
Consequence Management Response Team

- CMRT/CMOC
- AMS
- AFRAT

External US

- Japan Emergency Command Center, US Embassy, Tokyo
- USAF, BSC Commander
- USAF, WC-135 Constant Phoenix
- Futenma Marine Corps Air Station
- Nuclear Regulatory Commission
- Naval Reactors

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Guide to Interpretation

US EPA Derived Response Levels (DRLs) for Evacuation and Relocation

Early Phase DRL

- If a person is in danger of receiving an external radiation dose of 1 Rem over 4 days, the EPA recommends evacuation until radiation levels decrease. This area is indicated by red.

First Year DRL

- If a person is in danger of receiving an external radiation dose greater than 2 Rem during the first year, the EPA recommends relocation until radiation levels decrease. This is not an urgent action because the dose is received over a full year. This area is indicated by orange.

Fifty Year DRL

If a person is in danger of receiving an external radiation dose greater than 5 Rem over 50 years, the EPA recommends relocation until radiation levels decrease. This is not an urgent action because the dose is received over fifty years. This area falls within the second year DRL.

Second Year DRL

If a person is in danger of receiving an external radiation dose of greater than 0.5 Rem in the second year (or any subsequent year), the EPA recommends relocation until radiation levels decrease. This area is indicated by yellow.

These calculations account for multiple variables. For instance, radiation is most intense in the first days following its release therefore dose reduction may be met by evacuating early in the response.

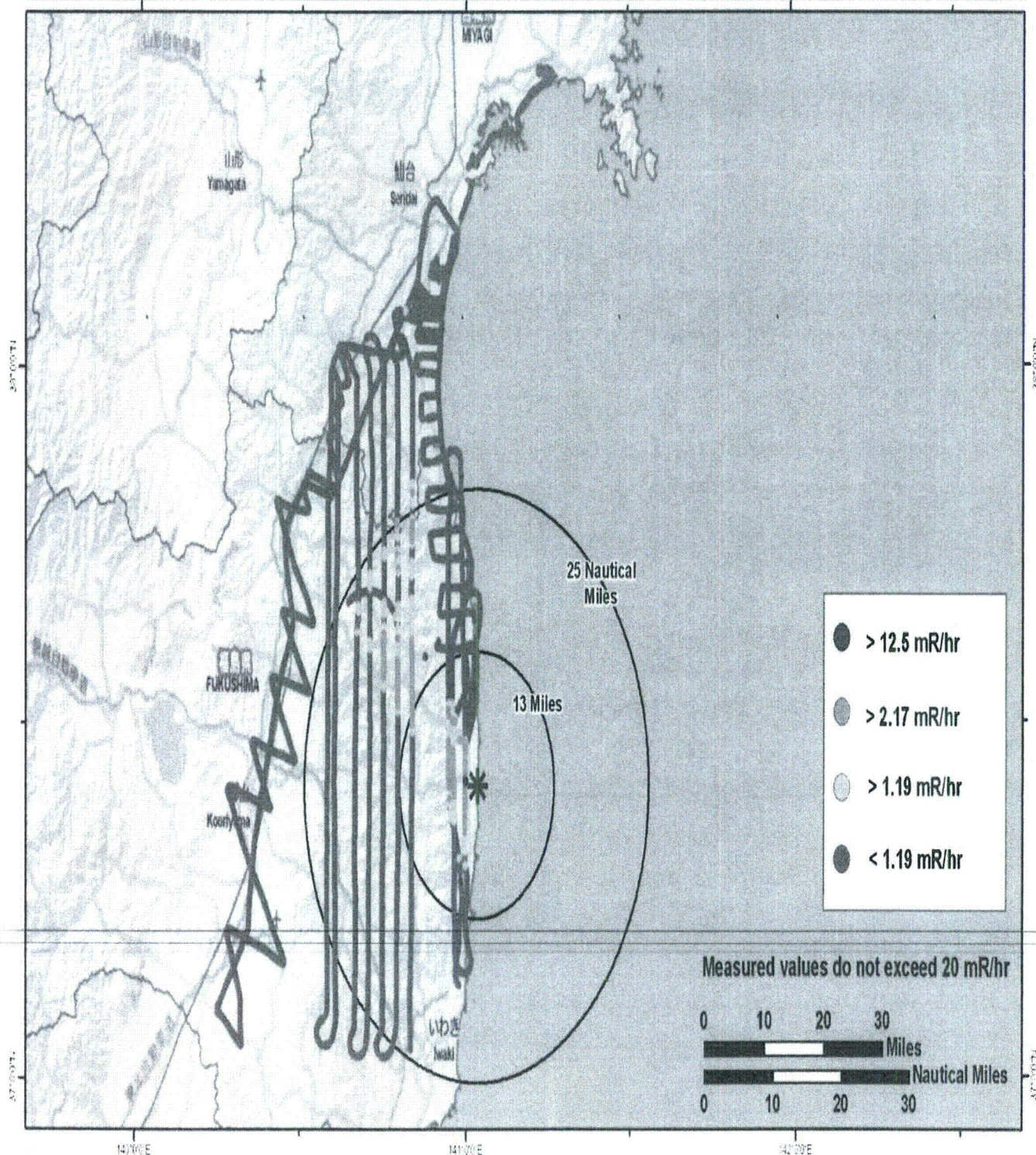
Protective actions are frequently expressed in dose rates. The dose rate is an indicator that residents would accumulate the threshold dose if they stayed in the area the entire time expressed (e.g. 1 year, 2 years, 50 years)



Aerial Monitoring Results

Combined UH-1 and C-12 Flights (March 24 & 26, 2011)

FUKUSHIMA DAIICHI
JAPAN



Map created on 03272011 0220 JST
Name: NIT Combined C12 and UH1 26Mar2011 Results

UNCLASSIFIED

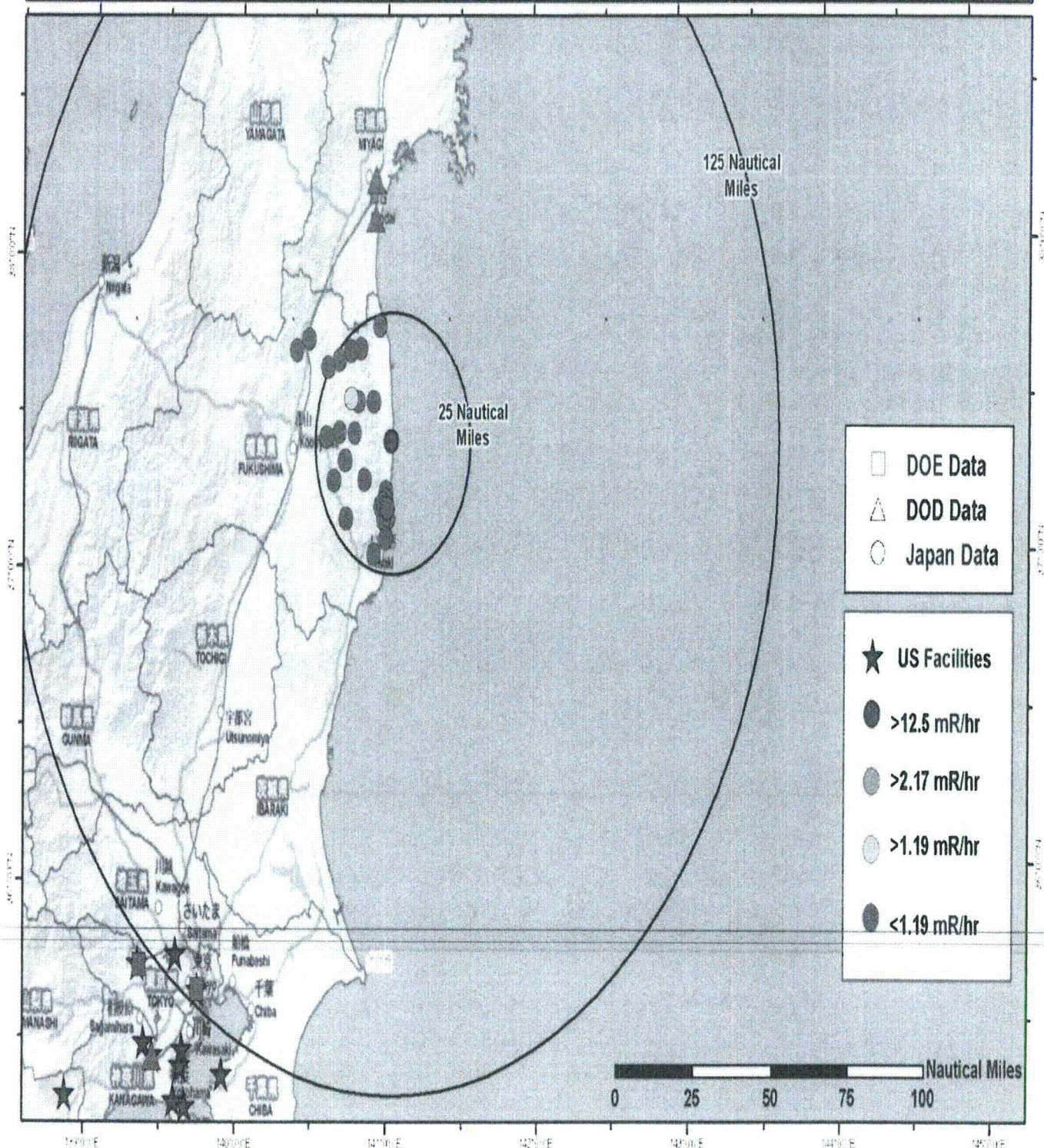
Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



Field Monitoring Results

March 28 13:00 to March 29 13:00 JST

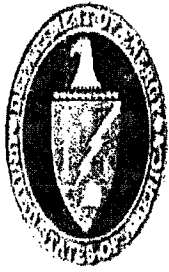
FUKUSHIMA DAIICHI
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Map created on 03292011 1400 JST
Name: NIT 24hrsMonitoringResults 28Mar2011 1300

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Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



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Guide to Interpretation

Areas at Risk for Food Contamination

Aerial measurements can indicate areas where agricultural monitoring and sampling should occur, although they cannot directly determine the amount of contamination within agricultural products.

♦ Areas 10 to 100 times historical background. Agricultural monitoring and sampling is a low priority because levels are almost certainly above acceptable thresholds. These areas are indicated by green.

♦ Areas 2 to 10 times historical background. Agricultural monitoring and sampling is strongly warranted. These areas are indicated by light blue.

♦ Areas at or near historical background. Agricultural monitoring and sampling may still be warranted. These areas are indicated by dark blue.

Derived Intervention Levels (DILs) - If agricultural products from a specified area can result in internal radiation dose to a person above predetermined thresholds, the US FDA recommends intervention to ensure these agricultural products do not enter commerce.

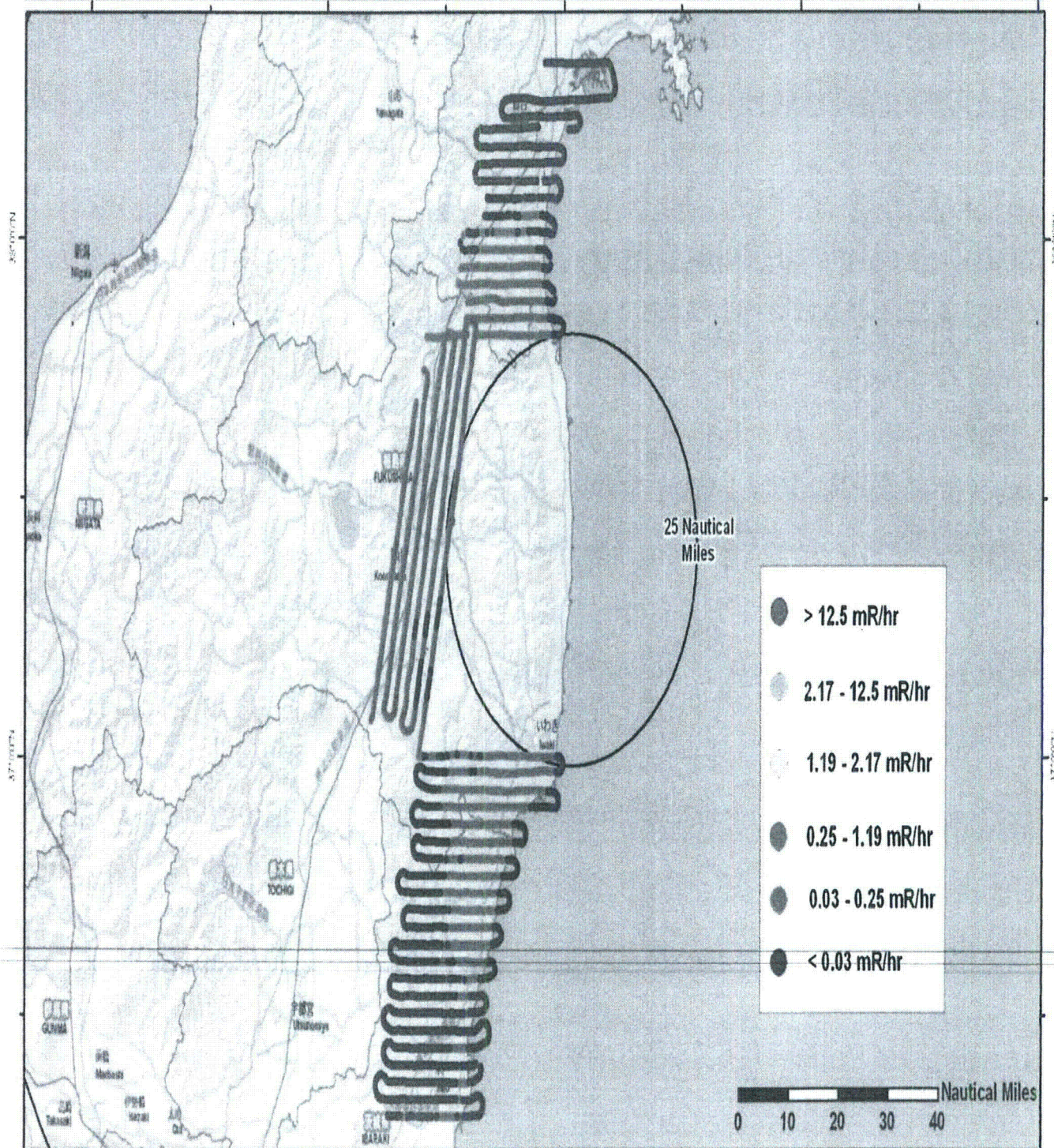
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Aerial Results

C-12 Flights (March 27 and 28, 2011)

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JAPAN



Map created on 03292011 0230 JST
Name: CMHT C12 AgriculturalImpactPathPlot

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Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



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Assessment

Assessment:

- An assessment of measurements gathered through 29 March show:
 - Radiation levels consistently below actionable levels for evacuation or relocation outside of 25 miles.
 - Decreasing levels of radioactivity in areas of previous deposition (e.g. area extending Northwest from accident site).
 - 27-28 March aerial monitoring results indicate that agricultural monitoring is warranted beyond the 25 miles radius to fully characterize areas of agricultural concern.

Conclusion:

Radiological material has not deposited in significant quantities in the areas measured since 19 March



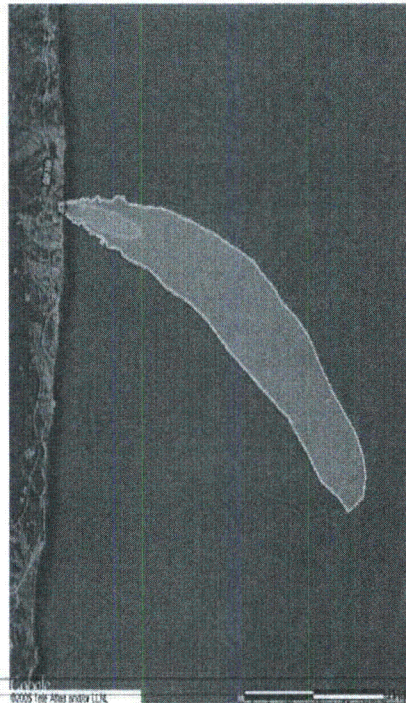
Official Use Only

Forecasted Weather March 29-30

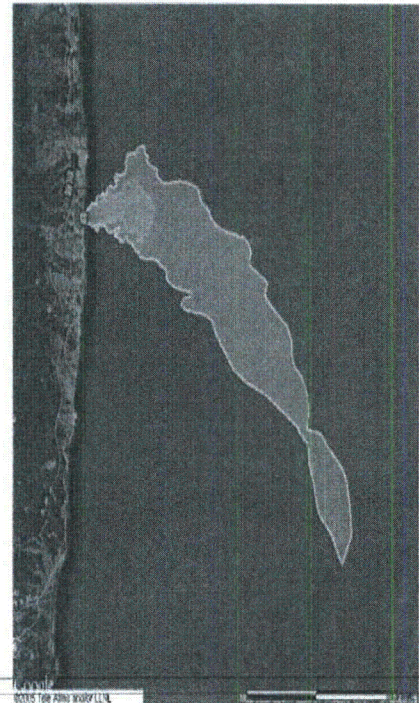
03/29/2011 20:00:00 JST



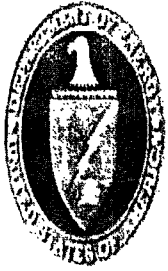
03/30/2011 07:00:00 JST



03/30/2011 12:00:00 JST



Official Use Only



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Planned Operations: Next 24 Hrs

Field Monitoring

- **AMS flight activities**

- AMS UH-1: Fly the Tohoku Expressway south of Koriyama to the hills north of Kuroiso.
- AMS HH-60: Fly the Tohoku Expressway north of Koriyama to the north side of Fukushima.
- AMS C-12: Fly the valley south of Kuroiso down to Utsunomiya.

- **Ground Monitoring Activities**

- Ground Teams:

- One ground team will drive along the Tohoku with the a mobile detection system in conjunction with the UH-1 and HH-60 flights; depending on how far north they travel they may enter the 50 NM zone
 - One ground team will travel to Yokuska to collect the air sample

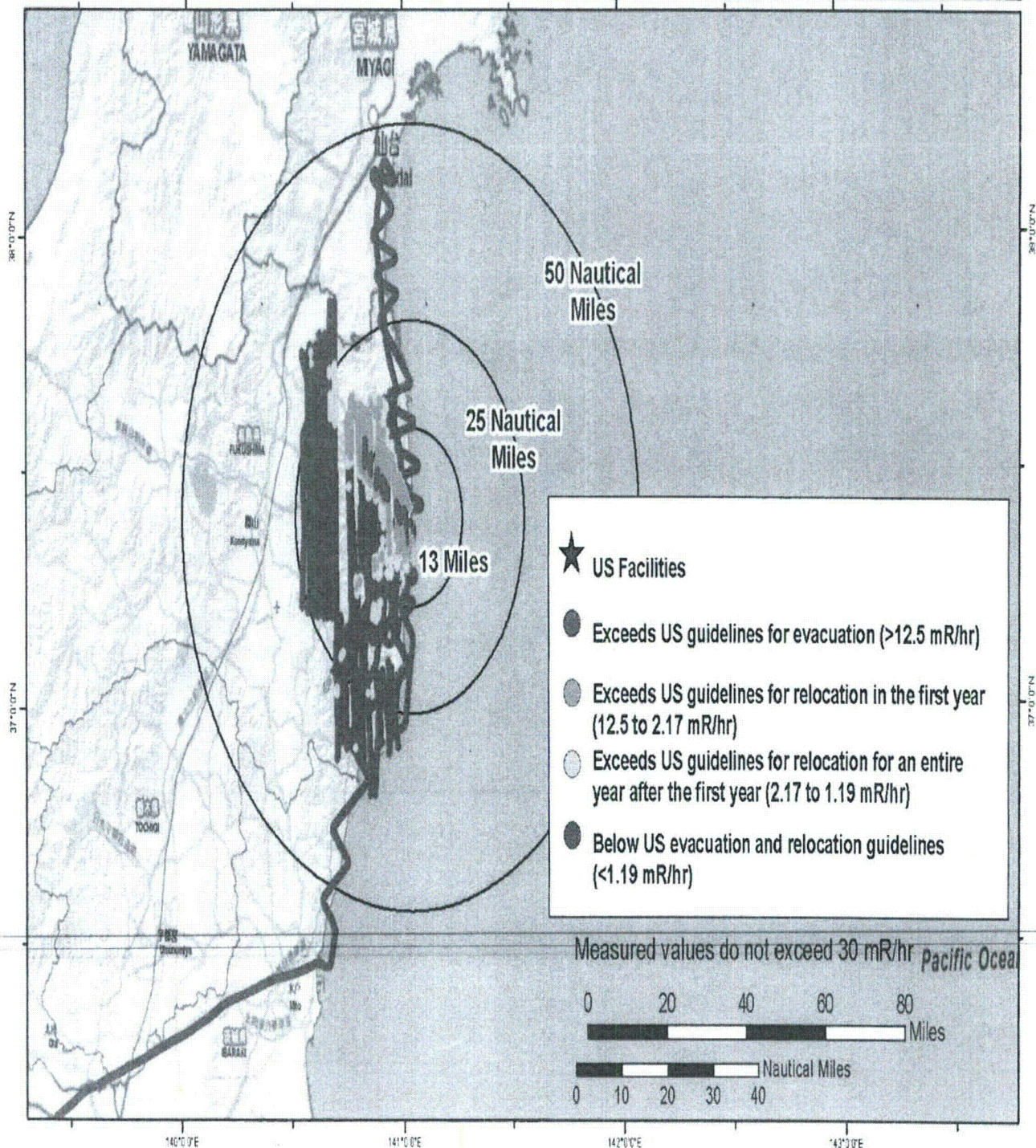
- Continuing work to implement the Distance Early Warning Line using DOE radiation detectors

- **Continue joint Monitoring and Assessment planning with DoD (US AFRAT)**



C-12 Aerial Measurements 3 Days of Flights

FUKUSHIMA DAIICHI
JAPAN



Map created on 03212011 0340 JST

Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100

EZ 685 of 810

Dose Trending for the Earthquake and Tsunami Event

Event/Release History

3/11 – Earthquake and Tsunami

Units 1, 2, 3 – automatically shutdown

Units 4, 5, 6 – previously shutdown and under maintenance

3/12 – Hydrogen explosion Unit 1

3/14 – Hydrogen explosion Unit 3

3/15 – Hydrogen explosion Unit 2

3/15 & 16 – Fires in Unit 4 Spent Fuel Pool

3/15 – White smoke Unit 2

3/16 – White smoke Unit 3

3/21 – Smoke Units 2 and 3

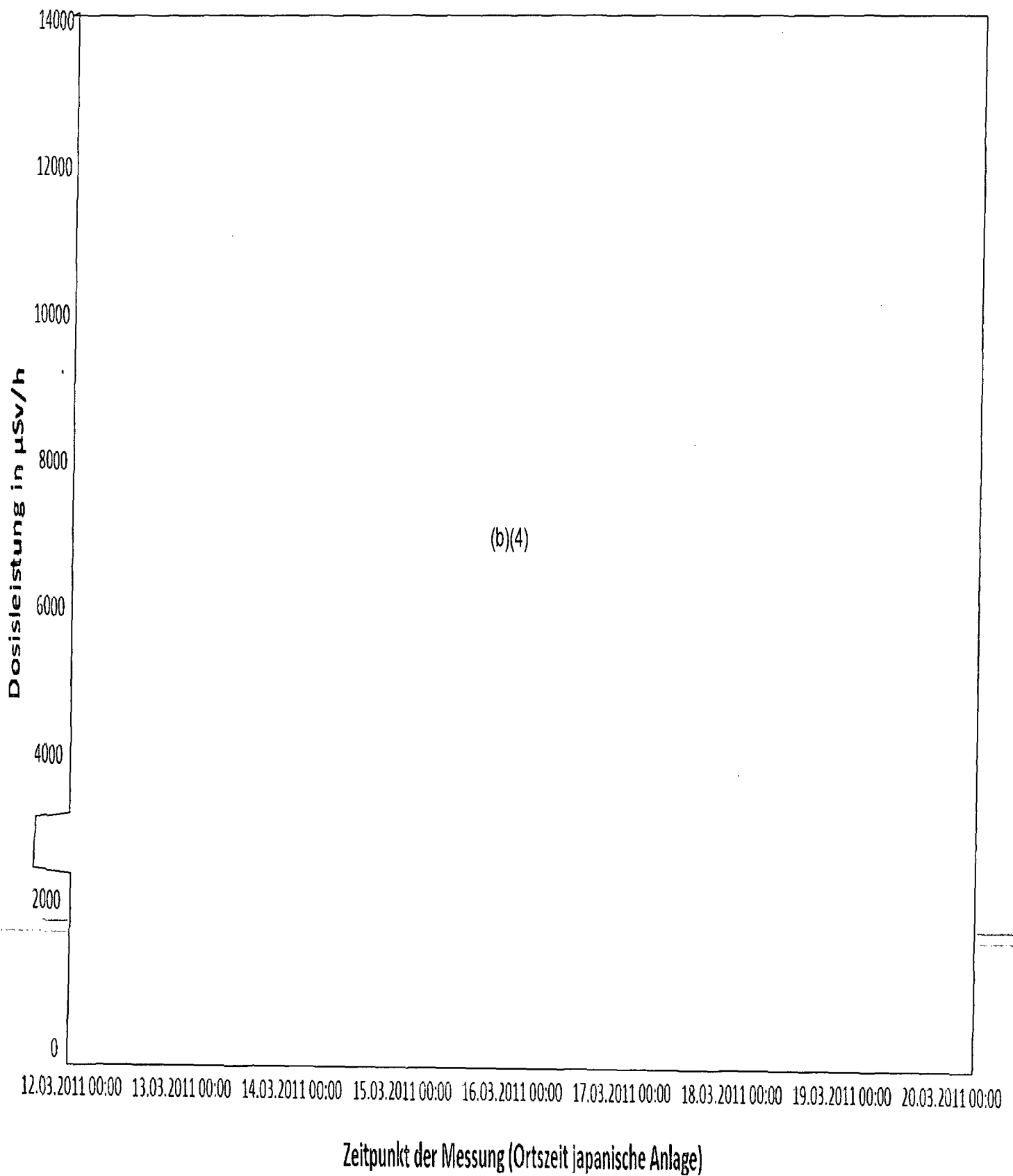
3/23 – Smoke Unit 3

Assessment:

- Aerial monitoring has been performed for mapping radiological ground material deposits.
- Teams have been conducting ground monitoring and air sampling .
- A comparison of aerial measurements gathered on March 24 and 26 to previous measurements from March 17 – 19 indicate that peak exposure rates are lower in comparable areas.
- Japanese Government (MEXT) monitors in areas near the site have been trending down.
 - Reduction in exposure rate is expected as a result of radioactive decay.
- No new areas of deposition are apparent although winds since March 19th have crossed the area measured

Conclusion:

Radiological material has not been deposited in significant quantities since March 19th

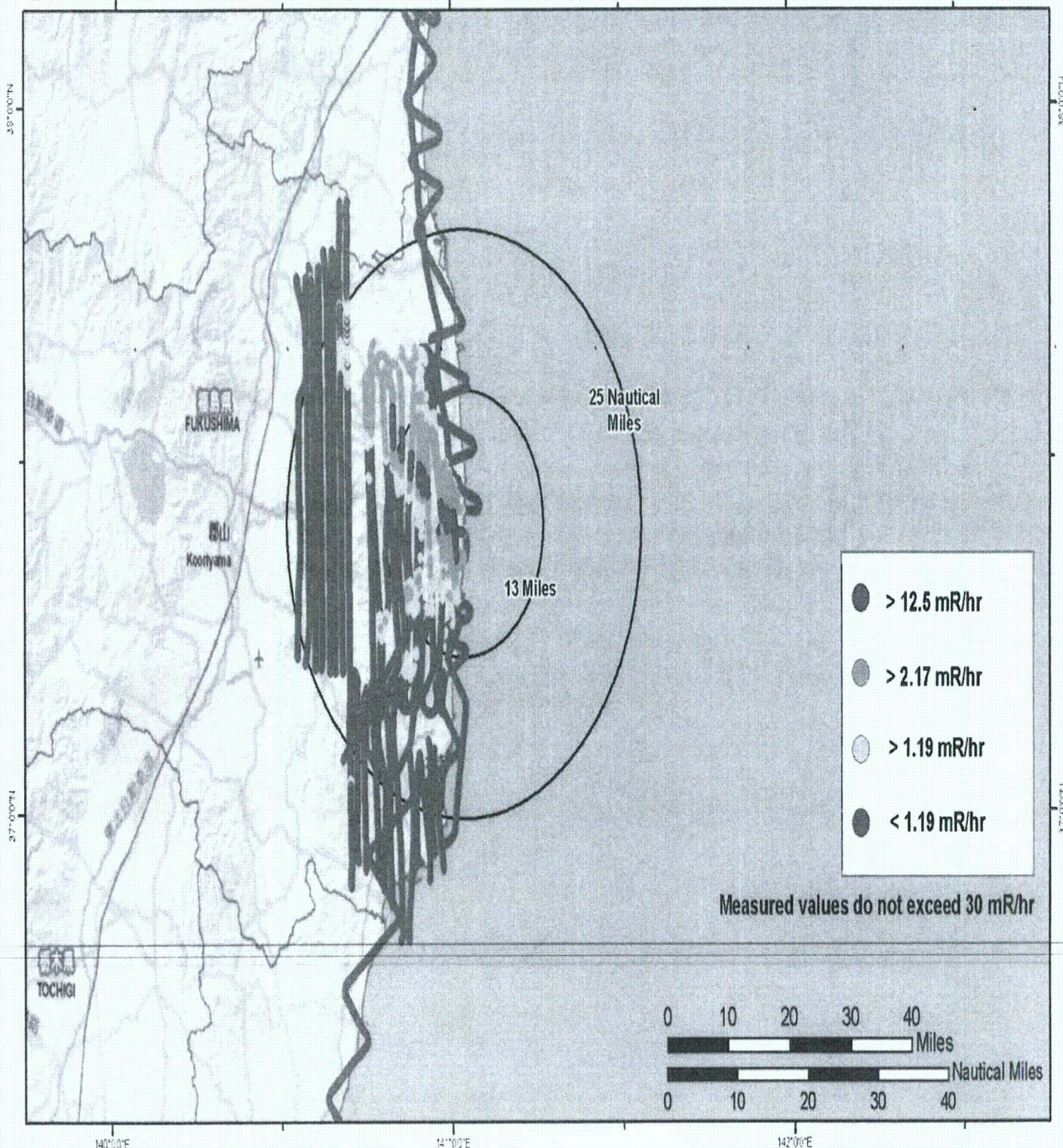




Aerial Monitoring Results - C-12

Survey Date - 17, 18, 19 March 2011

FUKUSHIMA DAIICHI
JAPAN



Map created on 03232011 0210 JST

Name: NIT_C-12 23Mar2011 v4

Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100

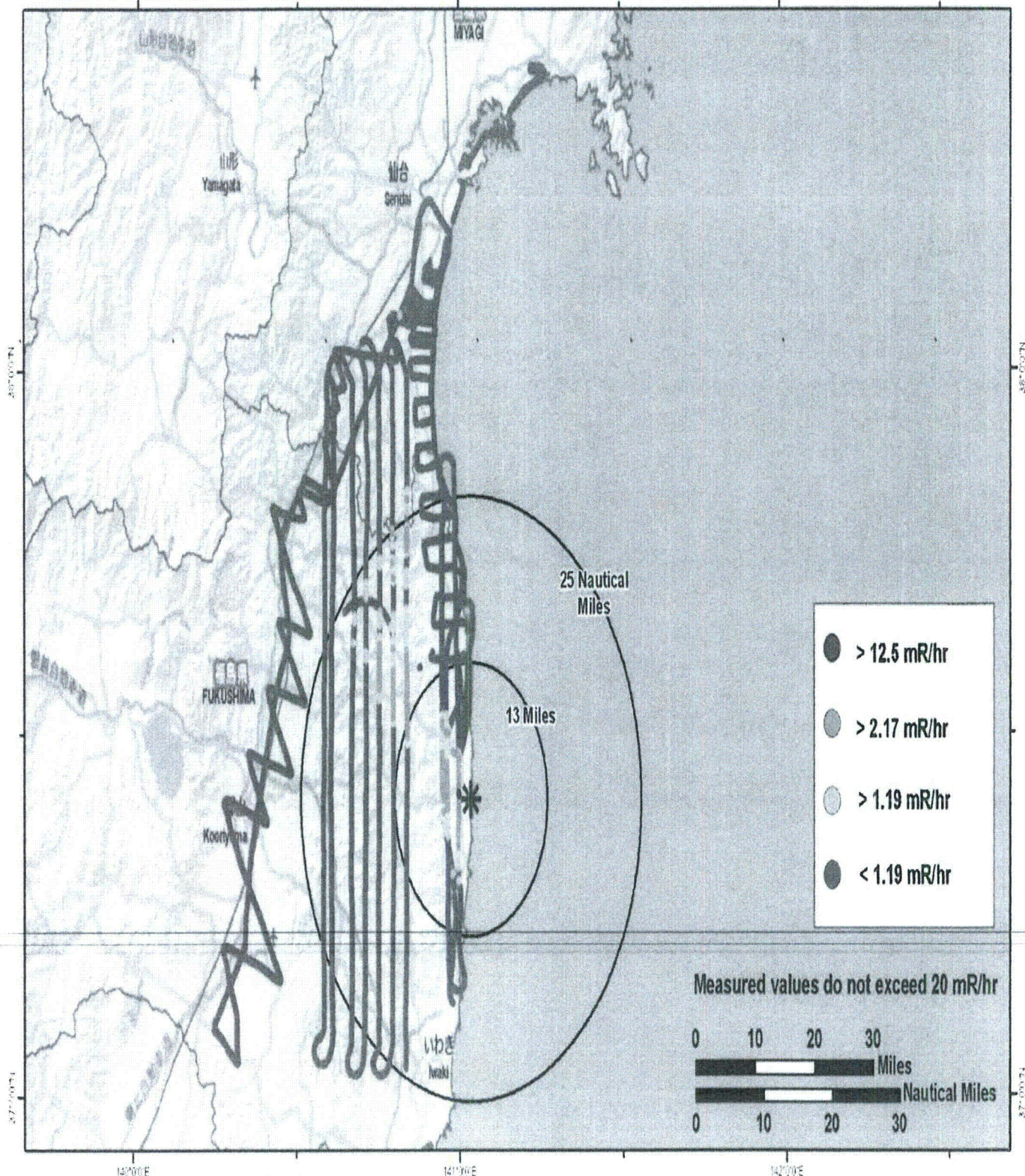
EZ 689 of 810



Aerial Monitoring Results

Combined UH-1 and C-12 Flights (March 24 & 26, 2011)

FUKUSHIMA DAIICHI
JAPAN



Map created on 03272011 0220 JST
Name: NIT Combined C12 and UH1 26Mar2011 Results

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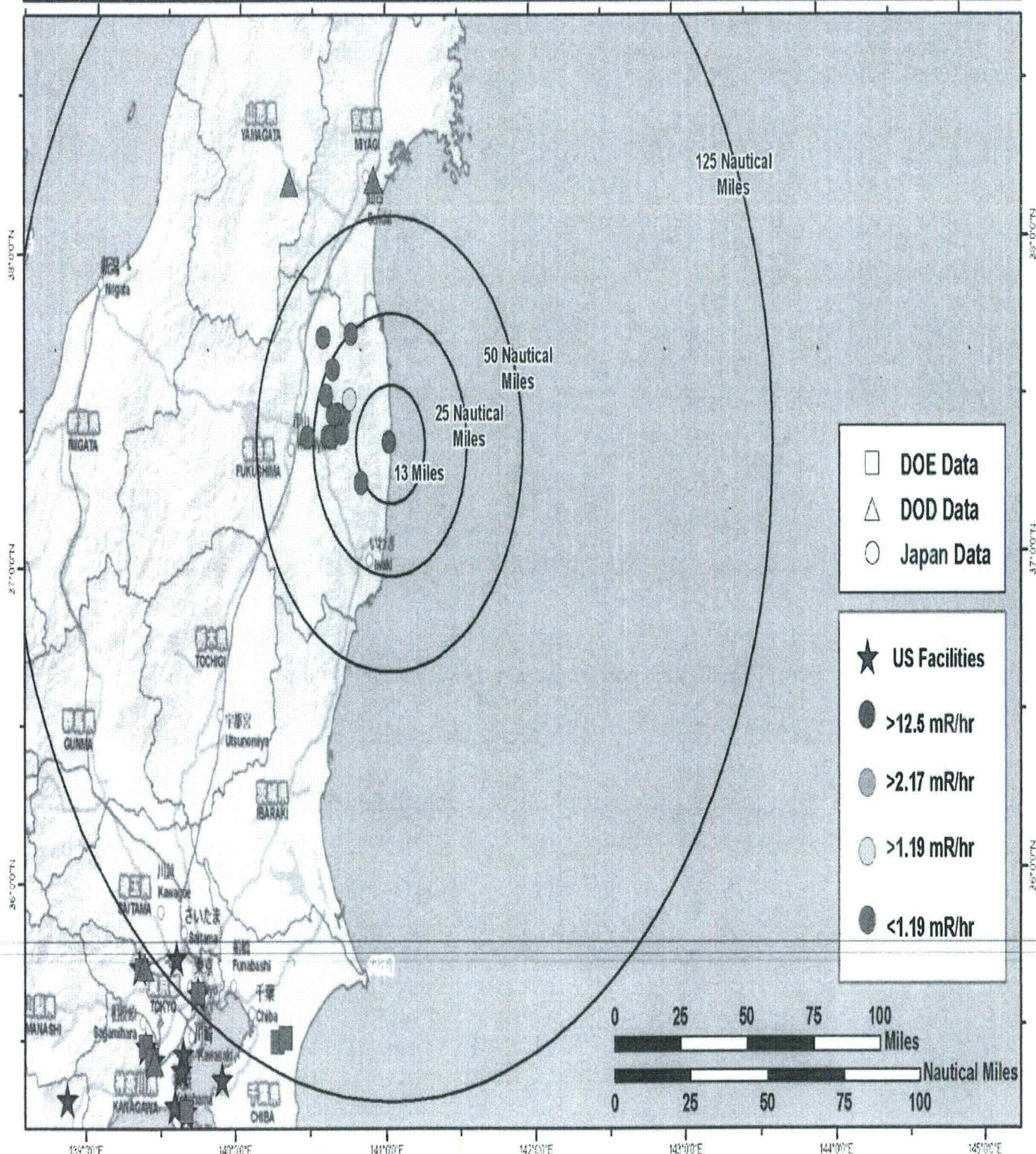
Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100



Field Monitoring Results

March 26 13:00 to March 27 13:00 JST

FUKUSHIMA DAIICHI
JAPAN

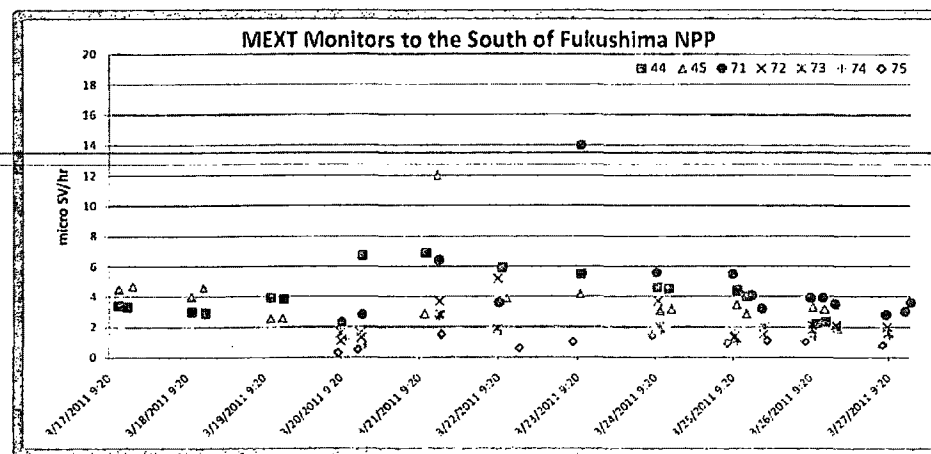
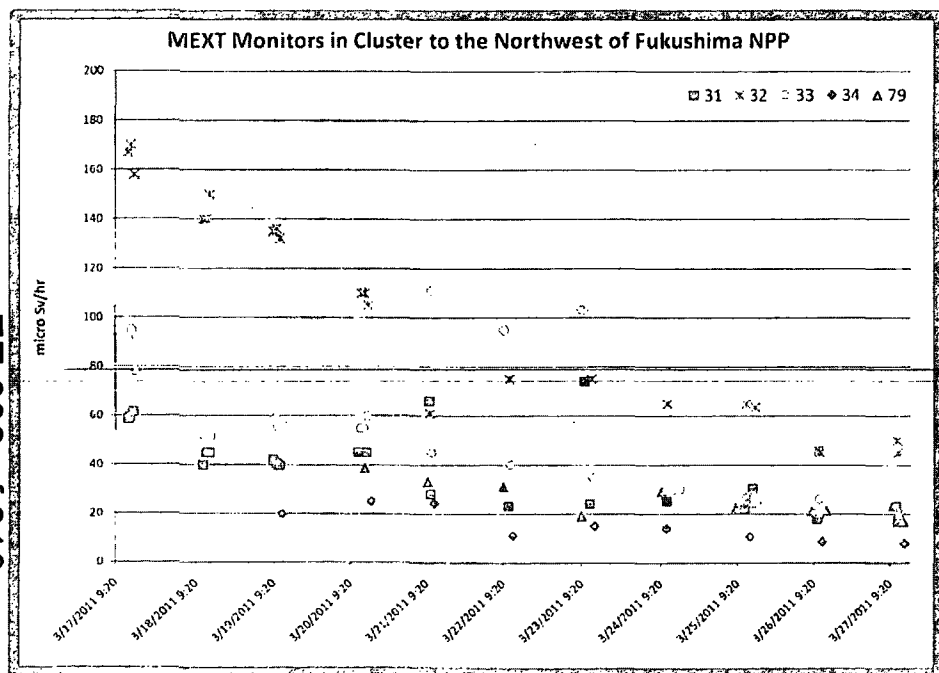
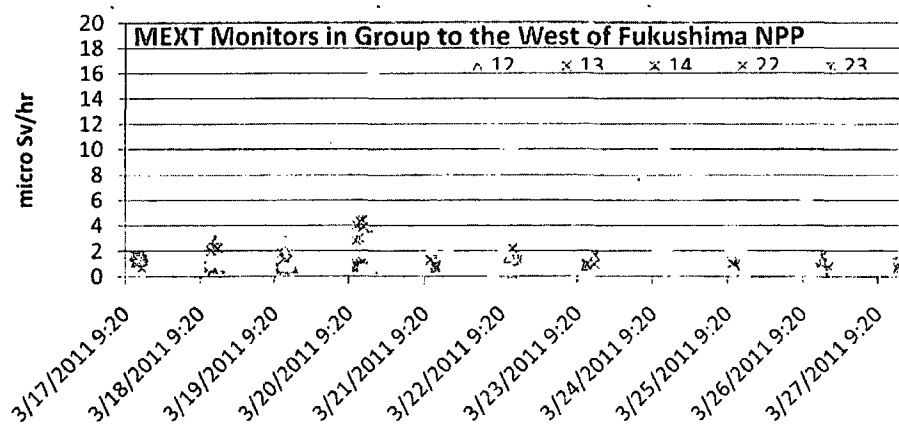
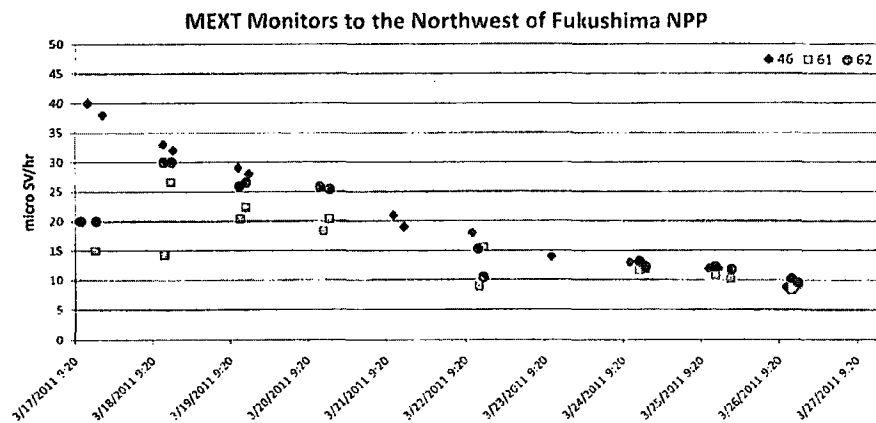
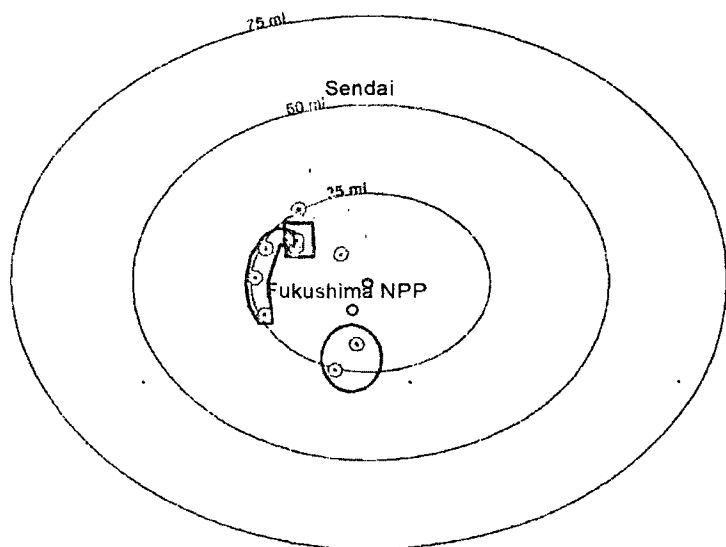


Map created on 03262011 1325 JST
Name: NIT 24hrsMonitoringResults 26Mar2011_

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Nuclear Incident Team DOE NIT
Contact (202) 586 - 8100

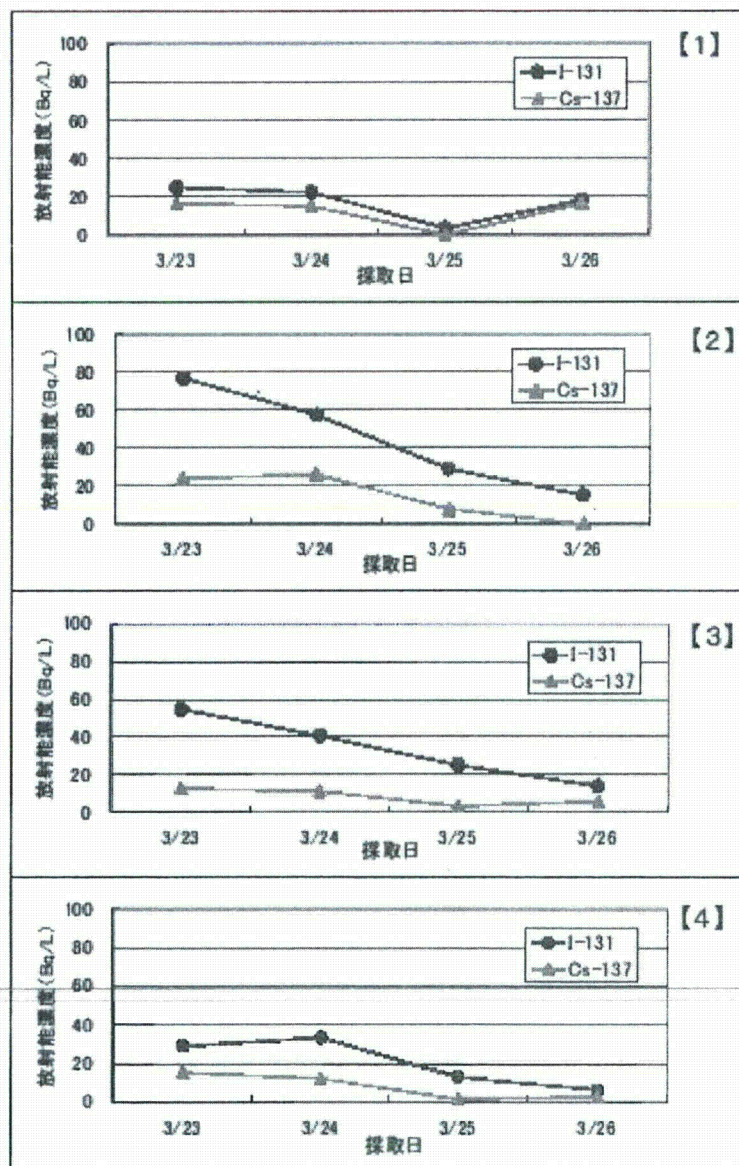
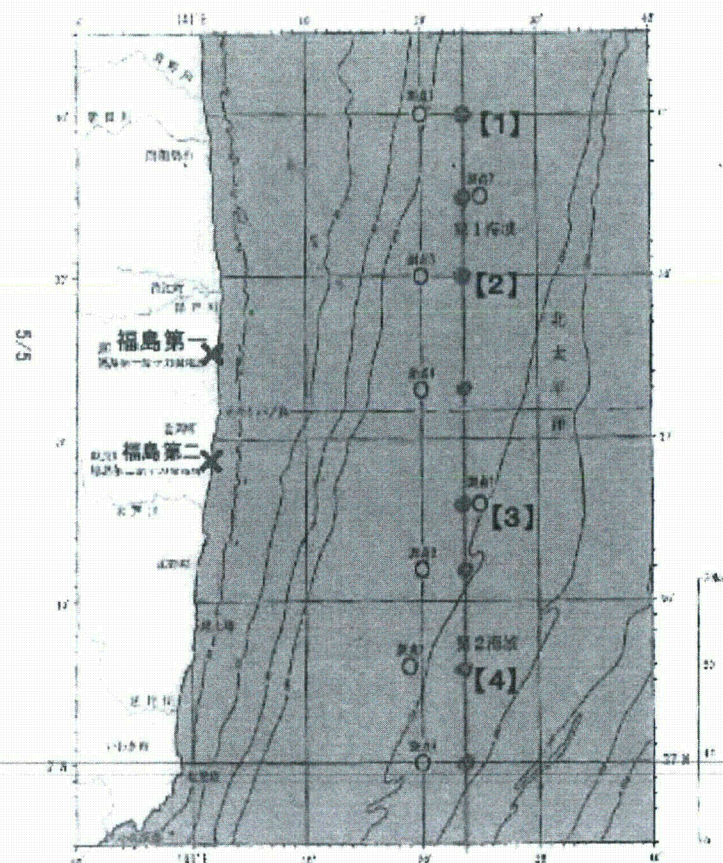
Current up to 3/27/2011 16:00 MEXT Release



EZ 692 of 810

福島第一原子力発電所周辺の海域モニタリング 海水中の放射能濃度の測定結果※

※グラフ横軸は試料採取日を示すものとし、測定結果が不検出であった場合を0Bq/Lとして表示した。





Aerial Monitoring Results

28 MARCH 2011

Fukushima Daichi Nuclear Power Plant, Japan

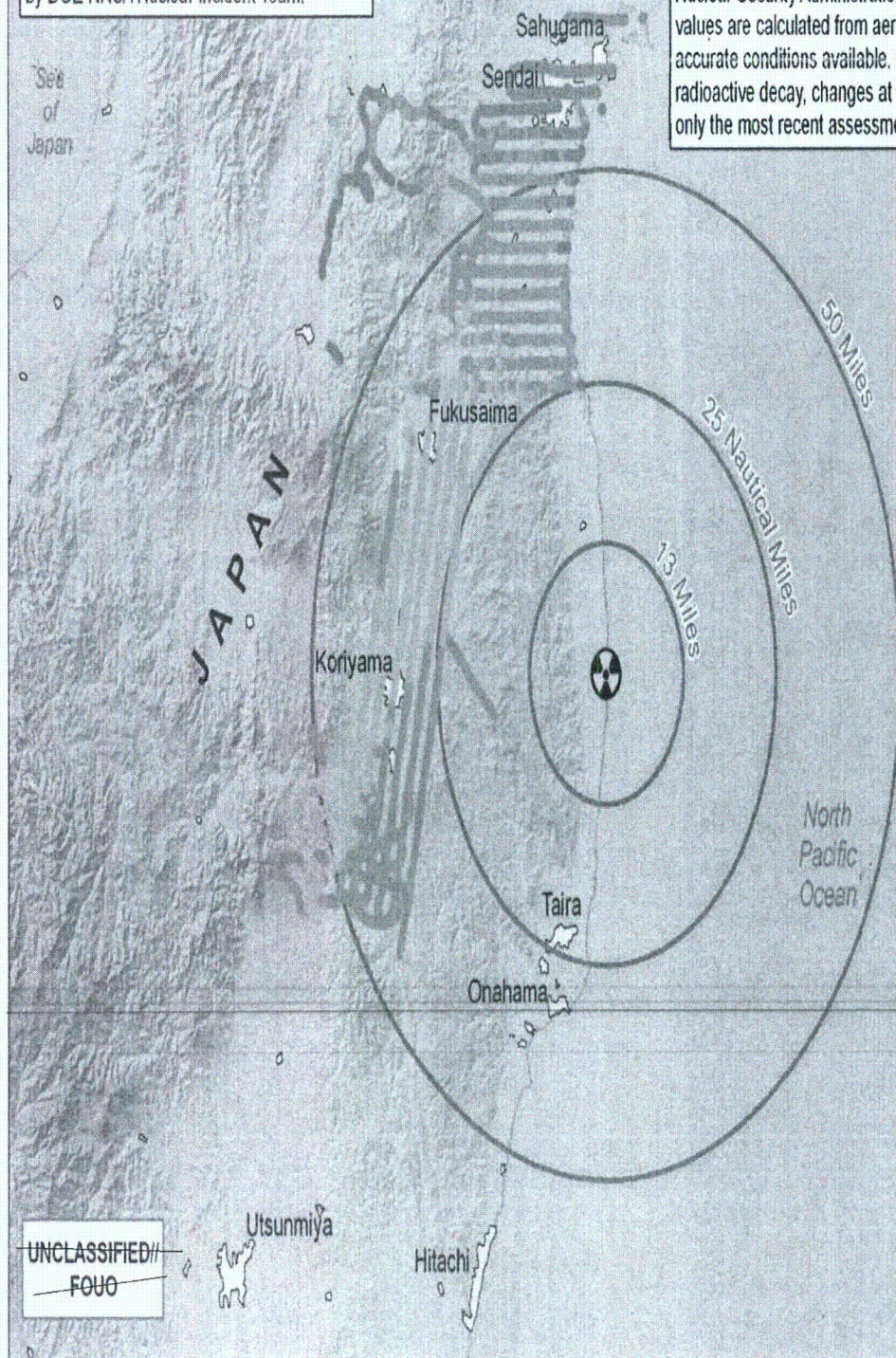


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DISTRIBUTION

These are preliminary results not yet evaluated
by DOE NNSA Nuclear Incident Team.

NOTE: Radiological assessments are provided by Department of Energy / National Nuclear Security Administration and are current as of the published time. Radiological values are calculated from aerial and ground measurements and represent the most accurate conditions available. However, these conditions change over time due to radioactive decay, changes at the accident site, and changes in weather. Therefore only the most recent assessments should be used.



Aerial Sensor Data

Exposure Rate at 1 Meter (mR/hr)

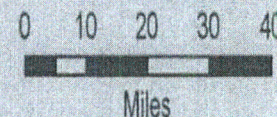
- > 20.0
- > 10.0 - 20.0
- > 5.0 - 10.0
- > 1.0 - 5.0
- > 0.1 - 1.0
- > 0.02 - 0.1
- ≤ 0.02



Fukushima Daichi NPP



Urban Area





Aerial Monitoring Results

26 - 28 MARCH 2011

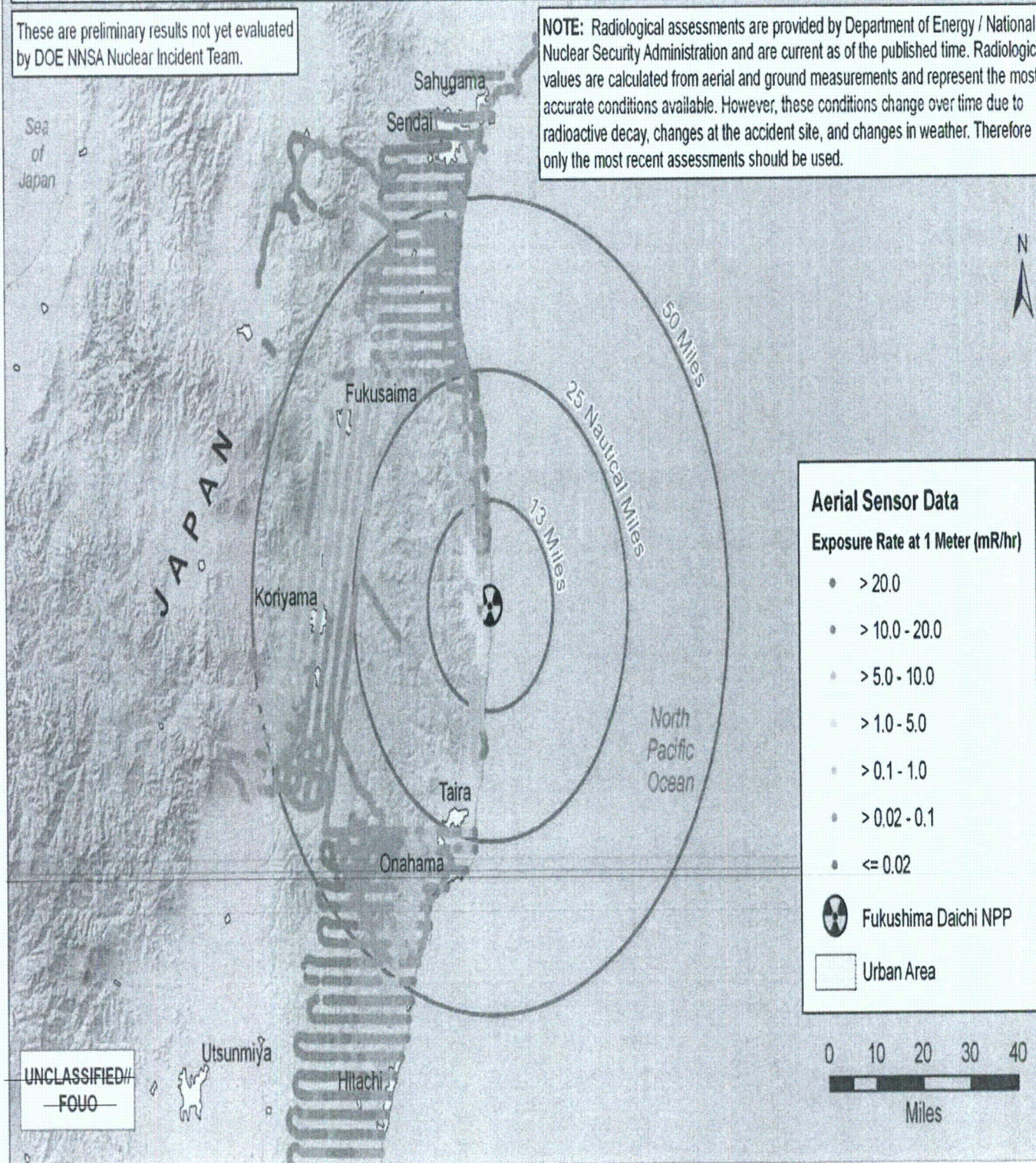
Fukushima Daichi Nuclear Power Plant, Japan



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~~FOUO~~



Ground Monitoring Results

28 MARCH 2011

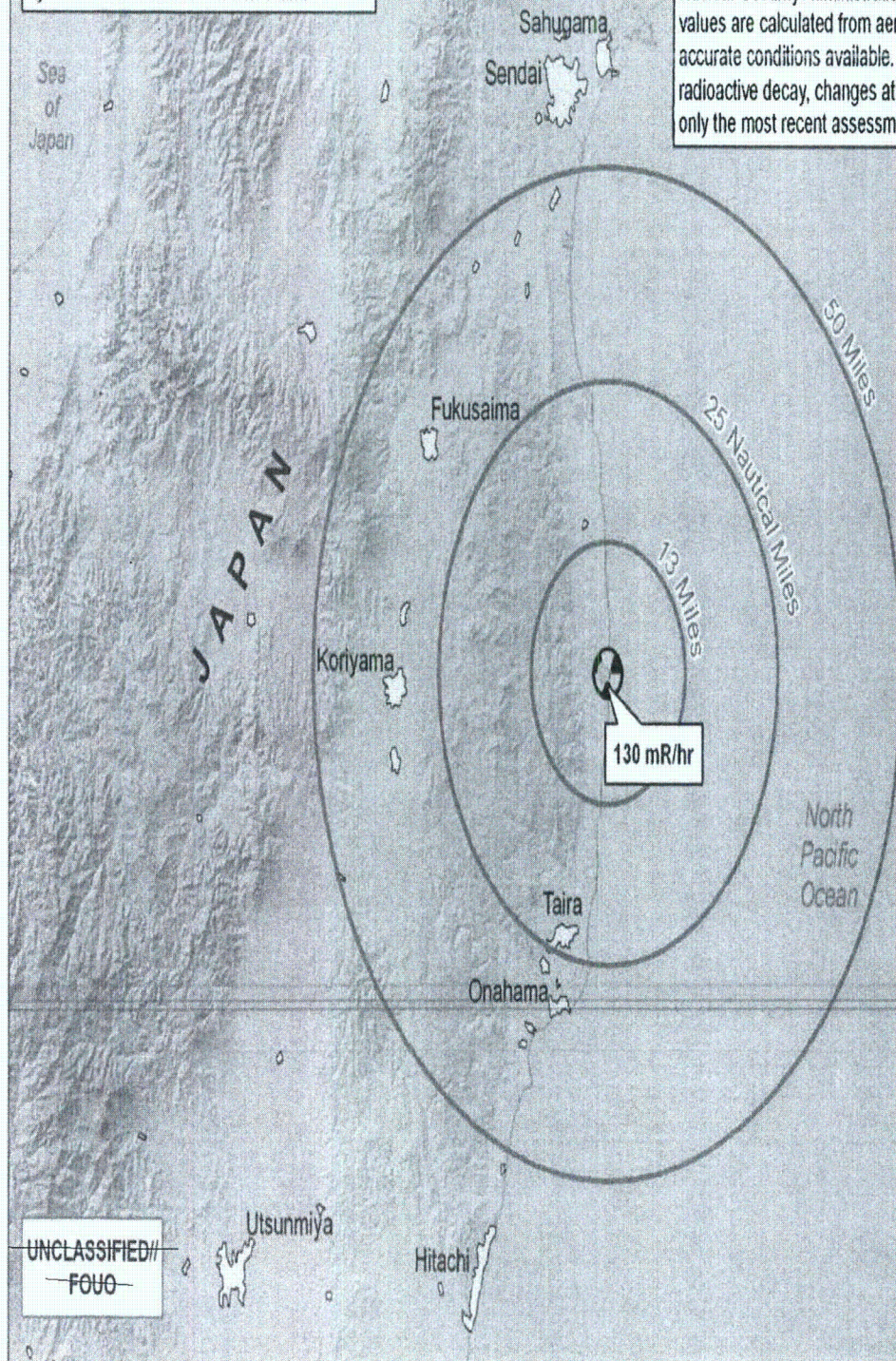
Fukushima Daichi Nuclear Power Plant, Japan



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Highest ground reading on this date:
130 mR/hr

Ground Sensor Data

Exposure Rate (mR/hr)

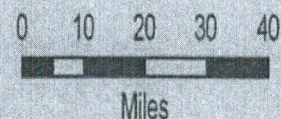
- > 20.0
- > 10.0 - 20.0
- > 5.0 - 10.0
- > 1.0 - 5.0
- > 0.1 - 1.0
- > 0.02 - 0.1
- ≤ 0.02



Fukushima Daichi NPP



Urban Area



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FOUO



Ground Monitoring Results

26 - 28 MARCH 2011

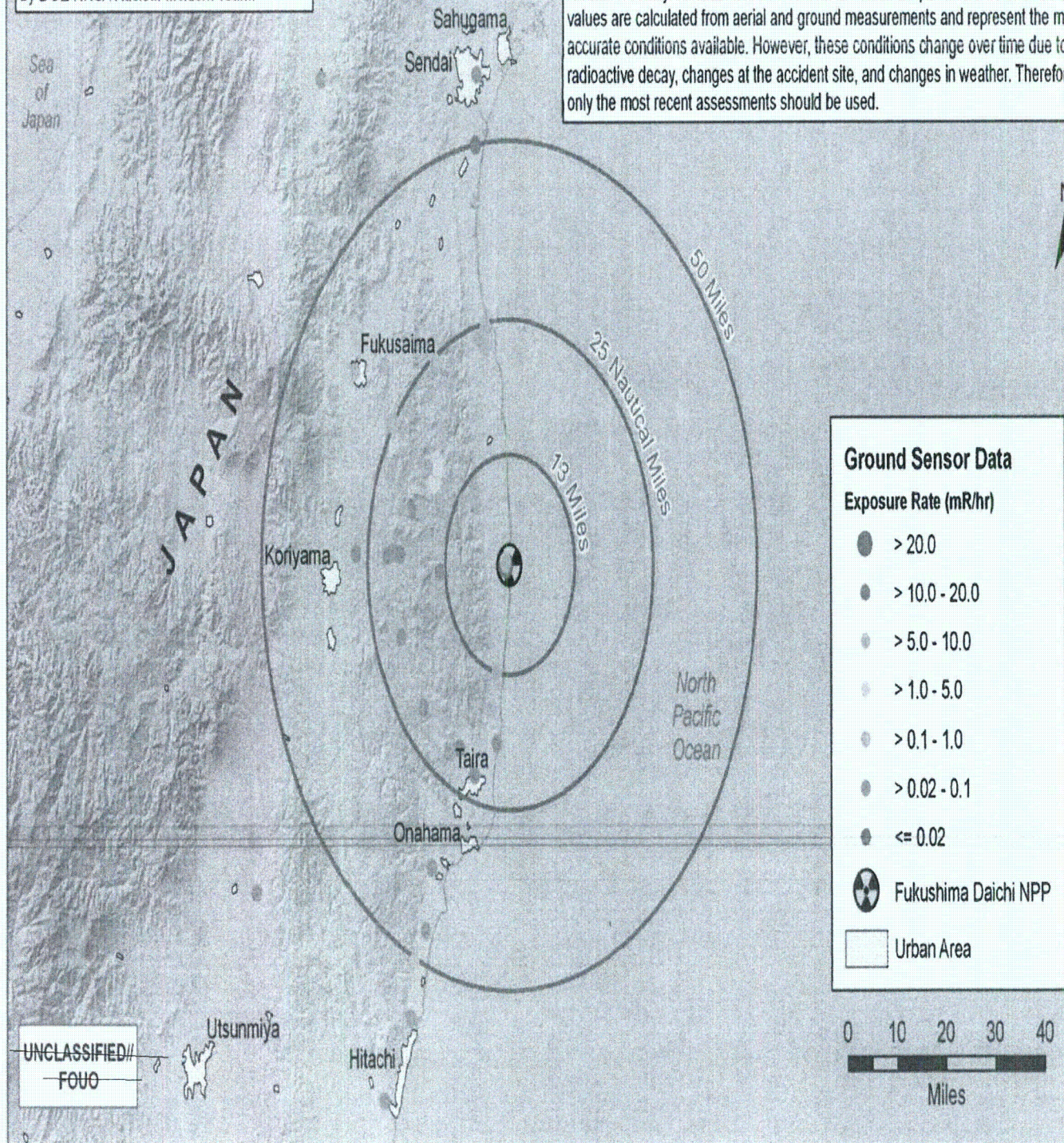
Fukushima Daichi Nuclear Power Plant, Japan



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