



Post Exercise Report NDMA – FFC National Industrial Disaster Mock Exercise 16 March 2017



**Fauji Fertiliser Company (FFC), Goth Macchi,
District Rahim Yar Khan, Punjab**



National Disaster Management Authority
Prime Minister's Office Premises
Islamabad

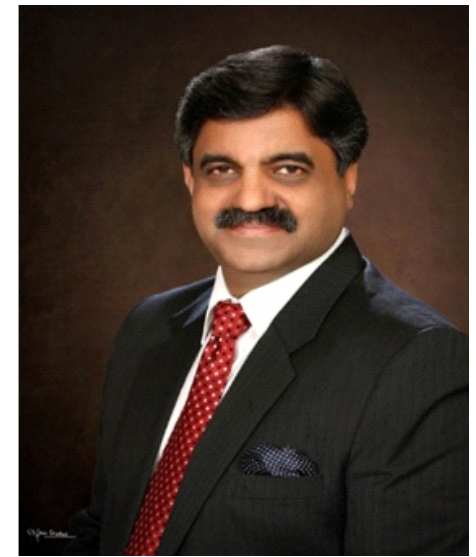
<http://www.ndma.gov.pk>

National Disaster Management Authority (NDMA),
Ministry of Climate Change (MoCC),
Prime Minister's Office Premises, Islamabad

Post Exercise Report
NDMA – FFC
National Industrial Disaster Mock Exercise
16 March 2017

FOREWORD BY CHAIRMAN NDMA

It is our great privilege to share Post Exercise Report of National Level Industrial Disaster Mock Exercise 2017 undertaken at Fauji Fertiliser Company (FFC), Goth Macchi, District Rahim Yar Khan on 16 March 2017. The Exercise was designed to test the disaster response capacities including coordination mechanism of Fauji Fertiliser Company (FFC), nearby industries and District Administration. This report has been prepared to highlight the important aspects observed during various phases of the exercise and to recommend improvement in standard operating procedures (SOPs) by all concerned.



Disaster Management System has come a long way in Pakistan in past few years. With formulation and work on implementation of National Disaster Management Plan 2013-2022 and its important interventions, National Disaster Management Authority (NDMA) in coordination with Provincial Disaster Management Authorities (PDMAs) and all relevant stakeholders has been steadily improving its disaster preparedness nationwide. Continuous efforts are also in hand to prepare ourselves for any untoward incident that may occur at any time in future. Furthermore, given the importance of disaster management, NDMA has been actively pursuing National Industrial Hazards Risk Assessment (NIHRA) which will assess the national risks / vulnerabilities posed by our various industries, which will allow the Government to accurately develop mitigation methods.

Industrial / Technical Disasters are an ever looming threat in our modern and fast paced world. In Pakistan, local industries have developed fast over many years and is undoubtedly thriving and improving our economy. However with the increase in industrial development, risk of industrial accidents has also grown considerably. In continuance of our commitment to address risks posed by industrial disasters, I hope that the industrial exercise held this year in cooperation with Fauji Fertiliser Company (FFC) will further provide a platform to other industries, Districts and Provinces to improve their coordination and response mechanism. I also urge all industries to improve their response and coordination mechanisms and Standard Operating Procedures in the light of this report and by conducting such exercises more frequently.

POST EXERCISE REPORT
NDMA-FFC NATIONAL INDUSTRIAL DISASTER MOCK EXERCISE
(HELD AT FFC – GOTH MACCHI ON 16 MARCH 2017)

1. **General.** A National Level Industrial Disaster Mock Exercise was conducted at Fauji Fertiliser Company (FFC) at Goth Macchi, District Rahim Yar Khan on 16 March 2017. Representatives from Armed Forces, PDMA Punjab, PDMA Khyber Pakhtunkhwa, PDMA Sindh, Civil Defence Punjab, SPD, DESTO and all available officials from neighbouring industries attended the Exercise. Major General Asghar Nawaz, HI(M), Chairman NDMA was the Chief Guest. The Exercise was designed to practice management of industrial disaster accidents with all available resources, besides educating the participants. The Exercise was based on real time contingency scenarios to assess the response capabilities exercised during various phases by impartial teams of observers with a view to identify shortcomings and recommend improvements for response in future.
2. **Aim.** To critically analyse the Industrial Mock Exercise conducted at Fauji Fertiliser Company (FFC), Goth Macchi on 16 March 2017 with a view to draw relevant conclusions to strengthen coordination and response mechanism against Industrial Disasters.
3. **Objectives and Scope of Exercise**
 - a. To hold a detailed National level Industrial Disaster Mock Exercise to test Contingency Planning for combating Industrial / Technical Disaster situations and improve Response and Coordination of all stakeholders.
 - b. Ensure that clear division of responsibilities is defined and all relevant stakeholders can coordinate an effective response.
 - c. Ensuring a correct Rapid Assessment of any incident leading to disaster situation.
 - d. Streamlining of Mechanism for Response and Reporting of Industrial Disasters.
 - e. Encouraging timely and comprehensive coordination and cooperation amongst stakeholders i.e. Industrial Sector and Provincial / Federal Governments.
 - f. Strengthening inherent capacities of all stakeholders.
 - g. Effective management of public perception through a proactive approach with media.
4. **Pre-Exercise Preparations.** Number of pre-exercise coordination meetings were held between NDMA, FFC and PDMA / DDMA Officials before the conduct of exercise. Manager Health Safety and Environment (HSE) FFC played a leading role in arranging meetings with various stakeholders and visiting NDMA for coordination of exercise. On behalf of District Administration Rahim Yar Khan, District Emergency Officer (DEO) made relentless efforts in coordinating and conducting the exercise. Major activities before the exercise are as under:-
 - a. First coordination meeting was held at NDMA on 22 September 2016. Broad outline and tentative schedule for the conduct of exercise was discussed between NDMA and FFC during the same meeting.

- b. FFC conducted their own Annual Mock Exercise on 22 November 2016. Director Response, NDMA, attended the said exercise. Shortcomings observed during the exercise were shared and also incorporated in the final National Level Exercise on 16 March 2017.
- c. The Second meeting was held at NDMA on 14 December 2016. Besides FFC, officials from all relevant departments including District Administration, MoFA, PDMA Punjab and Armed Forces also attended the meeting. Following decisions were made:-
 - (1) Date, location and time of the Exercise - 16 March 2017 Goth Macchi.
 - (2) Scenarios - Three to four real time Scenarios were developed.
 - (3) Participants and Facilitators of the Exercise - Invitees from all available industries/departments.
- d. First rehearsal of the exercise was conducted on 23 February 2017 at FFC Goth Macchi.
- e. Number of coordination meetings between FFC and District Administration were also held from 25 February to 10 March 2017.
- f. The second rehearsal was conducted on 10 March 2017. All tentacles of District Emergency Services of Rahim Yar Khan participated.
- g. Director Response and Deputy Director Response from NDMA reached FFC on 14 March 2017 and coordinated various events of the exercise between FFC and District Administration Rahim Yar Khan.

5. **Participation.** List of participants is attached as **Annex A**. All participants were divided into three groups under a designated leader for recording observations which were to be presented during de-briefing session at the end of exercise.



6. **Programme of the Exercise.** Proceedings of the Exercise commenced with the recitation of Holy Quran followed by the Welcome Address by Mr. Pervez Fateh, General Manager FFC and Maj Gen Asghar Nawaz, Chairman NDMA. Comprehensive briefing was given by Mr Mubashar Mahmood Butt, Manager HSE of FFC and Mr Babar Sattar, DEO, District Rahim Yar Khan. Detailed program of the exercise is attached at **Annex B**.

Conduct of Exercise

7. **Scenarios.** After the opening brief, all observers moved to the plant site, Main Control Room and nearby village i.e. Basti Ahmed Khan while Chairman NDMA (Exercise Control) along with General Manager FFC moved at Rear Control Room. Following scenarios were given by the Exercise Control, Chairman NDMA, to FFC / District Administration:-

- a. **First Scenario – Gas Leakage with One Causality.** The First scenario was issued by Chairman NDMA on wireless set at 1200 hours. The scenario required response to a heavy leakage of Ammonia Gas from R-101 Tank in Plant-1 at 2100 hours (assumed time). As per the scenario, first shift leader was to be considered on leave while the second had become causality due to gas leakage. On duty shift had to respond without these two individuals.
- b. **Second Scenario – Malfunctioning of System During Emergency.** While FFC Authorities were mobilising response resources for the first scenario, the second scenario was received in Main Control Room at 1206 hours from Exercise Control. The scenario dictated that gauges/monitors of the System were showing erratic readings and number of casualties had increased from one to four. Furthermore the water pressure of the hydrants had also reduced.
- c. **Third Scenario – Fire Incident at Plant 2.** The third scenario was issued at 1217 hours. As per new scenario, fire had erupted along the rear boundary wall of Plant – 2 and all fire extinguishing resources of FFC had already exhausted. This also called for additional resources from other agencies. Moreover a thick cloud of Ammonia Gas was also observed going out from the FFC periphery towards nearby population.
- d. **Fourth Scenario – Leakage of Gas to Basti Ahmed Khan.** This scenario was issued at 1315 to exercise / initiate 2nd/ 3rd Tier response involving local population, District Administration / PDMA. The scenario depicted a situation where large scale Ammonia Gas was observed escaping towards Basti Ahmed Khan (already earmarked assembly area by Rescue 1122). As a result, alternate assembly areas/ evacuation routes had to be selected for the residents of the village.



8. **Response to the Scenarios.** Though FFC and District Administration had practiced number of scenarios before this exercise, however, the scenarios given by NDMA Exercise Control were quite different and unexpected in terms of timings, location and magnitude. Initially response managers were overwhelmingly surprised but subsequently took effective charge of the situation in most professional manner as per SOPs. Scenario wise response by FFC and District Administration was as under:-

- a. **First Scenario.** First scenario was issued at 1200 hours depicting night time with first two in-charge of the shift absent. The third individual took charge of the situation and initiated response immediately. Main Control Room and Rear Control Room were established immediately. Relevant hydrants were made operational keeping in view the affected area and wind direction. Remaining persons of the shift were able to evacuate the casualties effectively. Ambulances adopted correct routes and took casualties in a professional manner. Initially response by some individuals inside the Main Control Room was found slow which improved subsequently as the exercise progressed.
- b. **Second Scenario.** The second scenario was more challenging for responders. It was received in Main Control Room just 6 minutes after the first scenario when the entire administration was engaged in dealing with the crises at Plant-1. On issue of second scenario, not only the entire shift of Main Control Room responded very well but complete emergency resources of FFC were timely mobilised to deal with the situation as hydrants were also experiencing low pressure. All available ambulances rushed to the site and additional fire tenders were also called. Standby generators were put in operation. In Main Control Room few officials seemed overcommitted, while some were found standing and observing the situation idly. Control room in-charge could have made more prudent use of non-committed persons and electronic gadgets to monitor and control the situation. Practice to employ Rescue 1122 resources inside FFC perimeters was done effectively.

- c. **Third Scenario.** The third scenario of fire incident along the rear boundary wall of Plant-2 was also responded well. Plant-2 Control Room in-charge timely informed the Rear Control Room and moved fire tenders along with ambulance and rescue teams to deal with the situation. The information of gas leakage was also passed to District Emergency Officer and concerned personnel of the surrounding population.
- d. **Fourth Scenario.** This scenario was meant to exercise second and third tier response. Pre-exercise preparations made by Rescue 1122 in surrounding areas were declared unsafe / unusable as per exercise requirement, creating a serious dilemma for responders. District Emergency Officer distributed entire force into number of teams which were then deployed to manage the situation. Other than the DEO no official from District Administration took part in the exercise.



9. **Analysis of Exercise.** The release of Ammonia or any other toxic gas due to human error or accident is a reality. In prevailing environment, an act of terrorism may also lead to such situation. The response measures displayed by Fauji Fertiliser Company and District Administration were highly admired by all observers and NDMA team. It was observed that FFC by virtue of its highly experienced team and updated SOPs, displayed excellent team work and professionalism during Tier-I response. Important observations during the response of Tier-I are as under:-

- a. **Innovation in Response.** Response to all the scenarios posed to FFC was highly commendable. The purpose of the exercise was not to highlight weaknesses or flaws in the response mechanism but to pose challenging situations which require innovative thinking and pragmatic response. Responders at all tiers might have practiced number of scenarios but at the same time they should be ready to deal with an impromptu situation. This requires “out of the box” thinking and innovative measures by making best use of available resources as per the situation.

- b. **Responding to Unexpected Scenarios.** Accidents and disasters are always unexpected in terms of time, location and magnitude. Maintaining balance and calm at the time of crises by the responders is the hallmark of success. It is therefore, imperative to remain ready for meeting unexpected situations and responding accordingly.
- c. **Uninterrupted Flow of Information.** Personnel / staff responsible to control / manage the situation must make use of various communication systems and equipment. They must be able to make best use of available gadgetry for managing any given situation. After the initiation of First and Second Scenarios simultaneously, it was observed that some of the response leaders were finding it difficult to take charge of the situation initially, however, the situation came under control subsequently.
- d. **Professional Knowledge.** Management of FFC displayed a very high standard of professionalism while handling complex scenarios. However, it was observed that few officials of the Main Control Room were not making proper use of the available equipment to monitor and manage the situation. Regular drills and training sessions for new staff will improve their on job skills.
- e. **Recording the Events.** Maintaining record of events is very important as it helps in taking preventive measures at later stages. It was observed that proper system for logging/ recording of events with timings was missing. Logging of events with correct time needs further improvement.
- f. **Absorbing Additional Resources.** At the time of any industrial disaster, planning must be made to absorb additional resources from neighbouring industries and District Administration (once required). Entry/ exit points to outside resources (ambulances, fire brigades) arriving at the scene of the incident must be known and guides with proper PPE must be provided for timely response.
- g. **Possibility of Terrorist Incident.** Considering the prevailing law and order situation, SOPs and response measures should also be planned to effectively manage such disasters.



10. **Tier – II Response.** Absence of relevant officials of District / Tehsil Government during the exercise remained a major impediment. Important observations during Tier-II response are as under:-

- a. **Selection of Assembly Areas and Routes.** The assembly area for villagers was fully prepared with banners and marked parking areas for vehicles prior to the commencement of the exercise. As per the given scenario, already selected assembly area was declared unsafe due to Ammonia leakage, however, no action was taken by the in-charge and all emergency services personnel and vehicles were made to assemble at the same area. Moreover, alternate assembly area was also selected at a later stage. The selected assembly area was congested due to insufficient space for the rescue vehicles and casualties. It is therefore imperative to select number of areas with sufficient space keeping in view all possibilities. Detailed planning and revision of SOPs may be done keeping in view all possible contingencies.
- b. **Controlling Mob and Regulating Movement.** During Tier-II response, most of the villagers were gathered around the assembly area to observe the exercise. Rescuers faced difficulty in moving and evacuating the casualties due to presence of unnecessary people on the routes. A proper team of Police must be earmarked for controlling the mob and regulating movement.
- c. **Non-Availability of Specialised Equipment.** Non-availability of proper equipment had negative impact on overall response. Considering the Industrial hub of Punjab, capability of Rescue 1122 needs to be enhanced by providing sufficient specialised equipment for dealing with industrial emergencies.
- d. **Maintaining Order during Rescue Operation.** To ascertain quick and immediate response, all rescue vehicles immediately rushed to the assembly area at once. In case of an actual emergency, rescue vehicles should move as per plan under respective team leaders to the designated site. Proper SOPs in this regard needs to be formulated.
- e. **Involvement of Local Community.** Except for the head of village and few other persons, the local community was not well aware of the actions to be taken in case of a real scenario. District Administration must involve local community including women and children in evacuation plan.
- f. **Flexibility in Planning and Execution.** Response Plans must be flexible to allow changes while dealing with multiple scenarios emerging from a situation. The plan should also allow changes as per the dictates of changing environment and time.

- g. **Central Command and Control Authority.** The unauthorised entry of personnel and vehicles in a confined area resulted in chaos at the scene of incident. Good command and control of the situation was lacking. The incident commander must position himself at an elevated point with proper communication equipment to keep monitoring and regulating the operation.
- h. **Evacuating in the Gas Direction.** Initially the direction of toxic gas was well assessed by Rescue 1122 team, however, upon changing the scenario, no change was made in the plan and rescuers continued evacuating casualties in the direction of toxic gas.
- i. **Installation of Number of Wind Socks.** To correctly ascertain the direction of toxic gas, no wind socks were placed close to the village site. To ascertain probable affected area, wind socks play an important role.

11. **Recommendations for Future.** The Exercise was very useful, practical and rich in experience for all participants. Management of Fauji Fertiliser Company deserves appreciation for conducting a comprehensive and well-coordinated exercise. Some recommendations for all industries are:-

- a. **Formulation of Plans and Revising SOPs.** All existing SOPs need to be revised in light of lessons learned from this exercise. Plans to manage disasters at all tiers must be simple and flexible to allow changes / modifications as per the nature of changing situation. For new scenarios / possibilities, comprehensive SOPs be formulated to allow automatic actions with less instructions during time of crises. Contingencies may also be formulated to counter and manage any terrorism incident. Furthermore, SOPs may be designed keeping in view all possible contingencies / scenarios.
- b. **Selection and Marking of Designated Areas.** The areas required to be used for disaster management must be carefully selected and properly marked. These areas should be spacious and safe to accommodate required persons/ vehicles. At the onset of any accident leading to a disaster situation, already designated persons may assume their positions automatically and start initiating actions as per plan/ SOPs. Moreover, the routes and alternative routes as per wind direction must also be marked and known to all concerned.
- c. **Traffic Management Plan.** Traffic Management Plan must be part of an Industrial Disaster Plan. On receipt of an industrial accident alert, management of

- traffic should be able to effectively seal off the area and control entry / exit points. As per plan, cordoning off the area by deploying Police / available security guards may also be done immediately after an incident. Separate entry and exit points for ambulances and fire brigade vehicles may be defined for civil population in surrounding areas. Guides may be detailed at entry/ exit points to guide incoming resources to reach the required site without loss of time.
- d. **Availability and Use of Specialised Equipment.** Industrial disasters require specialised equipment to reduce damages. Besides technical staff of the concerned industry and Rescue 1122, sufficient protective equipment may also be made available to affectees during evacuation.
- e. **Evacuation of Casualties.** Evacuation of residents should only be done by trained paramedical staff. The evacuation plan and response actions for local population should also be displayed at prominent points in populated areas near the industry by District Administration. Handouts and charts of evacuation plans and actions required to be taken in case of emergency may also be distributed to all concerned including population likely to be affected.
- f. **Use of Personal Protective Equipment.** All personnel in designated ambulances and fire tender vehicles must have PPE. PPE, water buckets and wet towels should also be made part of all vehicles likely to be involved in response / evacuation.
- g. **Training and Awareness Campaign.** Training plays a very important role in effective management of any disaster. District Administration needs to train Police and locals for dealing with such incidents. Moreover, frequent awareness campaigns and training seminars may be arranged for local communities by concerned industry. Joint training of Civil Administration doctors, community school teachers and ambulance drivers may also be undertaken by District Administration and industries.
- h. **Installation of Additional Wind Socks.** Wind socks at prominent places in populated areas surrounding the industry may be placed by respective District Administration to indicate direction to evacuate.
- i. **Conduct of Regular Industrial Exercises.** Exercises and mock drills should be conducted regularly by all industries. Each industry in Pakistan must plan regular exercises on monthly basis and atleast 1x major exercise each year taking lead from this report. All PDMA's must direct industries in their respective areas to share this information with all relevant agencies and departments including NDMA / PDMA's.

- j. **Need to Improve Coordination Mechanism.** Coordination brings synergy in response. All industries as well as District Administration may keep on updating their SOPs as per area requirement and threats. Regular coordination meetings may be held with all relevant stakeholders and existing SOPs be improved to strengthen the response mechanism.

Government of Pakistan
 Ministry of Climate Change
National Disaster Management Authority (NDMA)
 (Prime Minister's Office), Islamabad.
 Dated: ___ April 2017

Lieutenant Colonel
 For Chairman NDMA
(Khuda Bakhsh)
 Tel No: 051-9205035
 Cell No: 0321-2329663
 Fax No: 051-9205086

Distribution List. Attached.

Annexes

- A - List of Participants
 B - Programme of Work

DISTRIBUTION LIST

Ser	Departments / Agencies	No of Copies
External		
1.	The Secretary, Labour Department, Government of Sindh, Karachi	1
2.	Chief Executive Officer, Engro Corporation Pakistan, Karachi	1
3.	Fauji Fertiliser Corporation	1
4.	Engro Powergen Qadirpur Limited Power Plant, Ghotki	1
5.	Fauji Foundation Power Daharki	1
6.	Pakistan American Fertiliser Private Limited, Lahore	1
7.	Pak Arab Fertiliser Private Limited, Multan	1
8.	Mari Petroleum Company Limited, Islamabad	1
9.	TNB Liberty Power Plant, Mirpur Mathelo, Sindh	1
10.	Fatima Fertiliser Limited, Rahim Yar Khan	1
11.	Crisis Management Cell, JS Headquarters	1
12.	Brigadier Tariq Saeed, Strategic Plans Division, Chaklala, Rawalpindi	1
13.	Military Operations Directorate (MO-4), GHQ Rawalpindi	1
14.	ACNS (Maint), Naval Headquarters, Islamabad	1
15.	Headquarters 5 Corps, Karachi	1
16.	Port Qasim Authority, Karachi	1
17.	DG PDMA Sindh, Karachi	1
18.	DG PDMA Khyber Pakhtunkhwa, Peshawar	1
19.	DG Civil Defence, Sindh	1
20.	Director NA & Disarmament-C, Ministry of Foreign Affairs, Islamabad	1
21.	Director Industries, Commerce & Labour Department, Khyber Pakhtunkhwa	1
22.	Deputy Commissioner Ghotki	1
23.	USAR Team, Karachi	1
Sugar Mills		
24.	Abdullah Sugar Mills Ltd Merajabad, Depalpur, Okara	1
25.	Abdullah (Yusuf) Sugar Mills Ltd, Shahpur, Sargodha	1
26.	Adam Sugar Mills Ltd, Tehsil Chishtian, District Bahawalnagar	1
27.	Ashraf Sugar Mills Ltd, Ashrafabad, Bahawalpur	1
28.	Baba Farid Sugar Mills Ltd, Faisalabad Road, Okara	1
29.	Brothers Sugar Mills Ltd, Chunnian, District Kasur	1

Ser	Departments / Agencies	No of Copies
30.	Channar Sugar Mills Ltd Chak 407/GB, Tandlianwala, District Faisalabad	1
31.	Chaudhry Sugar Mills Ltd, Gojra, District T.T. Singh	1
32.	Colony Sugar Mills Ltd, Chak 84/15-L, Mian Channu, Khanewal	1
33.	Colony Phalia Sugar Mills Ltd, Tehsil Phalia, District M.B. Ud Din	1
34.	Eithad Sugar Mills Ltd, KLP Road, Karimabad, District R.Y. Khan	1
35.	Fatima Sugar Mills Ltd, Sinawan, Tehsil Kot Addu, District Muzaffargarh	1
36.	Fecto Sugar Mills Ltd, Darya Khan, Bhakkar	1
37.	Rasool Nawaz (EX-Shamim) Sugar Mills Ltd, Chak No 226, Samndri Tehsil Gojra, District Faisalabad	1
38.	Hamza Sugar Mills Ltd, Jetha Bhutta, Khanpur, District Rahim Yar Khan	1
39.	Haq Bahu Sugar Mill Ltd, 6 Km Liyya Rd, Rasheed Pur, 18 Hazari, District Jhang	1
40.	Haseeb Waqas Sugar Mills Ltd 2 Km Bucheki Road, Nanka na Sahib, Distt Sheikhpura	1
41.	Hunza Sugar Mills Ltd Chak 66/RB Sirajabad Chak Jumra Tehsil Jaranwala, Distt Faisalabad	1
42.	Huda Sugar Mills Ltd Sangla Hill Nankana Sahib	1
43.	Hussain Sugar Mills Ltd, Tehsil Jaranwala, Distt Faisalabad	1
44.	Indus Sugar Mills Ltd Kot Bahadur, Distt Rajanpur	1
45.	Ittegaq Sugar Mills Ltd Sahiwal Pakpattan Rd, Pak Pattan, Distt Sahiwal	1
46.	JDW-I Sugar Mills Ltd Mouza Sharin Jamal Din Wali, Distt Rahim Yar Khan	1
47.	JDW-II Sugar Mills Ltd Macjo Goth Tehsil Sadiqabad, Distt Rahim Yar Khan	1
48.	Kamalia Sugar Mills Ltd Kamalia, T.T. Singh	1
49.	Kashmir Sugar Mills Ltd Shorkot, Distt Jhang	1
50.	Jauharabad Sugar Mills Ltd (Formerly Kohinoor Sugar Mills Ltd) Jauharabad, Distt Khushab	1
51.	Layyah Sugar Mills Ltd Tehsil & Distt Layyah	1
52.	Macca Sugar Mills Ltd Chank 65 Manga Raiwind Rd Distt Kasur	1
53.	Madina Sugar Mills Ltd 10-Km Faisalabad Road, Chiniot Distt Faisalabad	1
54.	Noon Sugar Mills Ltd Tehsil Bhalwal, Distt Sargodha	1
55.	Popular (Ex National) Sugar Mill Village Jan Muhammad Wala Near Sial Chowk, Teshil Bhalwal, Distt Sargodha	1

Ser	Departments / Agencies	No of Copies
56.	Pattoki Sugar Mills Ltd Pattoki, Distt Kasur	1
57.	Ramzan Sugar Mills Ltd 26 KM Jhang Rd, Distt Chiniot	1
58.	R.Y.K Sugar Mills Ltd Rukanabad Janpur	1
59.	Safina Sugar Mills Ltd Lalian	1
60.	Hunza Sugar Mills Ltd (Unit-II) Layyah Road 18 Hazari Distt Jhang	1
61.	Shahtaj Sugar Mills Ltd Mandi Bahauddin	1
62.	Shakarganj I Mills Ltd Toba Raod Distt Jhang	1
63.	Shakarganj Mills Ltd (Bhone) 57 Km Jhang Sargodha Rd, Distt Jhang	1
64.	Sheikhoo Sugar Mills Ltd Anwarabad Kot Addu, Distt Muzaffargarh	1
65.	Tandlianwala Sugar Mills Ltd Chak 542/GB Kanjwani Samundri Distt Faisalabad	1
66.	Tandlianwala-II (Younus Rahman Hajra) Sugar Mills Ltd Shah Jamal Road Distt Muzaffargarh	1
67.	Abdullah Shah Ghazi Sugar Mills Ltd Gharo Taluka Gharo Bari Muarfah Muslim Commercial Bank Gharo	1
68.	Al-Abbas Sugar Mills Ltd Mirwah Gorchani, Taluka Digri	1
69.	Al Noor Sugar Mills Ltd Shahpur Jehanian, Taluka Daulatpur	1
70.	Ansari Sugar Mills Ltd Matli, Deh Jagsiyani, Taluka Tando Ghulam Hyder	1
71.	Army Welfare Sugar Mills Ltd Taluka Badin	1
72.	Bawany Sugar Mills Ltd Talhar	1
73.	Dewan Sugar Mills Ltd Dewan City	1
74.	Digri Sugar Mills Ltd Digri	1
75.	Faran Sugar Mills Ltd Sheikh Bhirkio	1
76.	Habib Sugar Mills Ltd PO Box 25 Nawabshah	1
77.	JDW Sugar Mills Ltd, Unit III Lalowala	1
78.	Khairpur Sugar mills Ltd Nara Dhoro Taluka Kot Diji	1
79.	Khoski Sugar Mills Ltd Khoski	1
80.	kiran Sugar Mills Ltd Noman Goth, Duber Road Rohri	1
81.	Larr Sugar Mills Ltd Dehkinjhir, Taluka Sujawal	1
82.	Matiari Sugar Mills Ltd Deh Pannu	1
83.	Mehran Sugar Mills Ltd Tando Adam Road, Tando Allah Yar	1
84.	Mirpur Khas Sugar Mills Ltd Umerkot Road	1
85.	Mirza Sugar Mills Ltd Benazirabad	1
86.	Naudero Sugar Mills Ltd Nudero	1

Ser	Departments / Agencies	No of Copies
87.	New Dadu Sugar Mills Ltd PO Piarogoth	1
88.	Rani Pur Sugar Mills Ltd Taluka Kot Diji	1
89.	Sakrand Sugar Mills Ltd DehTharo Umar PO Qazi Ahmed	1
90.	Sardar Ghulam Muhammad (SGM) Sugar Mills Ghotki	1
91.	Sanghar Sugar Mills Ltd Sanghar Sindhri Road	1
92.	Seri Sugar Mills Ltd Deh Norai Jageer Taluka	1
93.	Sindh Abadgar's Sugar Mills Ltd Deh Deenpur	1
94.	Tharparkar Sugar Mills Ltd Kot Ghulam Mohammad	1
95.	Shahmurad Sugar Mills Ltd Sujawal	1
96.	Al-Moiz Sugar Mills Ltd 26 Km Chashma Road, Chashma, Distt D.I.Khan	1
97.	Chashma-1 Sugar Mills Ltd University Road PO Haji Mora Hani Mora, Distt D.I.Khan	1
98.	Chashma-2 Sugar Mills Ltd, University Road PO Haji Mora, Hani Mora, Distt D.I.Khan	1
99.	Khazana Sugar Mills Ltd, Khazana Charsadda Road Peshawar, Khazana Charsada, Road, Distt Peshawar	1
100.	Premier Sugar Mills Ltd Distt Mardan	1
101.	Zamand Sugar Mills Ltd Miran Distt D.I.Khan	1
Cement Industries		
102.	Askari Cement Limited Wah (A unit of Army Welfare Trust), 5th Floor AWT Plaza Shahrah-e-Quad-e-Azam PO Box 336, Rawalpindi	1
103.	Askari Cement Limited- Nzp (A Unit of Army Welfare Trust), 5th Floor AWT Plaza Shahrah-e-Quad-e-Azam PO Box 336, Rawalpindi	1
104.	Bestway Cement Limited, Best Way House 19-A College Road F-7 Markaz Islamabad	1
105.	Cherat Cement Company Limited, Modern Motor hose Beaumont Road Karachi	1
106.	D.G Khan Cement Company Limited, Nishat House 53-A, Lawrence Road Lahore	1
107.	Dandot Cement Ltd, 30-Sher Shah Block, New Garden Town Lahore	1
108.	Facto Cement Ltd, 35 Darulaman Housing Society Block 7/8 Shahra-e-Faisal Karachi	1
109.	Fauji Cement Company Ltd, Fauji Tower Block No.3, 68 Tipu	1

Ser	Departments / Agencies	No of Copies
	Road Chaklala Rawalpindi	
110.	Gharibwal Cement Ltd, 28-B/3 Gulberg III, Lahore	1
111.	Kohat Cement Company Ltd, 37-P Gulberg-II Lahore	1
112.	Lafarge Pakistan Cement Ltd, PCC Plaza Plot 18-B F-8 Markaz Islamabad	1
113.	Lucky Cement Ltd, 6-A Muhammad Ali Housing Society Aziz Hashim Tabba Street, Karachi	1
114.	Maple Leaf Cement Factory Ltd, 42-Lawrence Road Lahore	1
115.	Mustehkum Cement Ltd, Best Way House 19-A College Road F-7 Markaz Islamabad	1
116.	Pioneer Cement Ltd 135 Ferozpur Road Lahore	1
117.	Al-Abbas Cement Industries Ltd, Arif Habib Centre 23, M.T Khan Road Karachi 74000 Karachi	1
118.	Attock Cement Pakistan Ltd, D-70 Block 4 Clifton Karachi	1
119.	Dewan Cement Ltd, Finance & Trade Centre, 2nd Floor Block-A Shahrah-e-Faisal Karachi	1
120.	Thatta Cement Company Ltd Pardesi House Survey # 2/1 R.Y.16, Old Queens Road Karachi, 74000	1
Textile Industries		
121.	Al-Karam Textile Mills (Pvt) Ltd, HT-11 Industrial Area Landhi Karachi-22	1
122.	Badar International Textile Mill (Pvt) Ltd Sargodha Road Faisalabad	1
123.	Faisalabad Garment City Textile Company, Value Addition City, 1-1/2 KM Khurrianwala, Sahiwala Road Khurrianwala Faisalabad	1
124.	Hussain Industries Textile Mill (Pvt) Ltd, HT-11 Industrial Area Landhi Karachi-22	1
125.	Kohat Textile Mills (Pvt) Ltd 4th Floor Kulsum Plaza 42, Capital Islamabad	1
126.	Mainoor Textile Industries (Pvt) Ltd, D-97 Site Karachi	1
127.	Mina Industries (Pvt) Ltd, 29-A SITE Manghopir Road Karachi	1
128.	Star Textile Mills (Pvt) Ltd, Karachi	1
129.	AA Spinning Textile Mills (Pvt) Ltd, Faisalabad	1
130.	Abu Bakar Textile Mills (Pvt) Ltd Compsi Building, 10 Civic Centre, 2 nd Fhamlood, Barkat Market, New Garden Town, Lahore	1
131.	Adnan Textile Mills (Pvt) Ltd, Sindh Industrial Trading Estate, Karachi	1
132.	Ahmad Jamal Textile Mills (Pvt) Ltd, 4 Km Jhumra Road, Khurrianwala, Faisalabad	1

Ser	Departments / Agencies	No of Copies
133.	Ahmed Fine Textile Mills (Pvt) Ltd N5, 1st Floor, International Plaza Bohra Street, Multan Cantt	1
134.	Al-Abid Silk Mills (Pvt) Ltd, Sindh Industrial Trading Estate, Karachi	1
135.	Al-Qadir Textile Mills (Pvt) Ltd 6 Km Jhelum Road, Chakwal-Jhelum Road, Daab	1
136.	Allahwasaya Textile Mills (Pvt) Ltd, Dunyapur Road, Multan	1
137.	Amjad Textile Mills (Pvt) Ltd, 43/17, Tipu Sultan Road, Multan Cantt	1
138.	Amsons Textile Mills (Pvt) Ltd, D14/B Manghopir Road Karachi	1
139.	Artistic Fabric Mills (Pvt) Ltd, 472 Deh Landhi, Bin Qasim Town, Karachi	1
140.	Arzoo Textile Mills (Pvt) Ltd, People's Colony No. 1, Faisalabad	1
141.	Ashabi Textile Mills (Pvt) Ltd, Plot No D-24, South Ave, SITE Industrial Area, SITE Karachi	1
142.	Bari Mills (Pvt) Ltd, National Highway- Super Highway Link Road, Pir Sarhandi, Karachi	1
143.	Bhanero Textile Mills (Pvt) Ltd, E/2 Bhanero Site Kotri	1
144.	Bisma Textile Mills (Pvt) Ltd Commercial Building No. 279, Block Q, Phase 3, DHA Lahore	1
145.	Brewala Textile Mills (Pvt) Ltd, Burewala	1
146.	CA Textile Mills (Pvt) Ltd, Lahore Sheikhpura Road	1
147.	Chaudhry Brothers Textile Mills (Kamiley Spinning Mills), Muzaffargarh	1
148.	Cofcot Textile Mills (Pvt) Ltd, Hyderabad	1
149.	Crestex (Pvt) Ltd, Faisalabad	1
150.	DEWAN Textile Mills No. 2 (Pvt) Ltd, Kotri	1
151.	Din Textile Mills (Pvt) Ltd, Multan	1
152.	DM Textile Mills (Pvt) Ltd, Dhoke Hasu Road, Rawalpindi	1
153.	Eastern Spinning Mill 2 (Pvt) Ltd, Manga Road, Lahore	1
154.	Ebrahim Textile Mills (Pvt) Ltd, Landhi Industrial Area, Karachi	1
155.	Faisal Mustafa Textile (Pvt) Ltd, 22 Km Sheikhpura Road, Raowala Faisalabad	1
156.	Fateh Textile Mills (Pvt) Ltd, Hyderabad	1
157.	Fazal Sardar Textile Mills (Pvt) Ltd, Sec 28, Karachi	1
158.	Gadoon Textile Mills (Pvt) Ltd, Gadoon Amazai Industrial Estate, Khyber Pakhtunkhwa	1
159.	Ghafori Masjid (Pvt) Ltd, Landhi Industrial Area, Karachi	1

Ser	Departments / Agencies	No of Copies
160.	Glamour Textile Mills (Pvt) Ltd, Manga - Raiwind Road	1
161.	Gohar Textile Mills (Pvt) Ltd, 3Km Chak Jhumra Road, Khurianwala, Faisalabad	1
162.	Gul Ahmed Textile (Pvt) Ltd, Landhi Industrial Area, Karachi	1
163.	J. K. Spinning Mills (Pvt) Ltd, 29 Km, Shiekhupra Road Khurrianwala, Faisalabad	1
164.	Kohat Textile Mills (Pvt) Ltd, Canal Road Kohat	1
165.	Kohinoor Textile Mills (Pvt) Ltd, 42, Lawrence Road Lahore	1
166.	Kohinoor Textile Mills Limited (Pvt) Ltd, Peshawar Road Rawalpindi	1
167.	Kohinoor Textile Mills (Pvt) Ltd, Gulyana Road, Gulyana	1
168.	Liberty Mills Limited (Pvt) Ltd, A/51 - A, S.I.T.E, Karachi	1
169.	Lucky Textile Mills (Pvt) Ltd, A-8/C S.I.T.E, Karachi	1
170.	Mahmood Textile Mills, (Pvt) Ltd, Multan	1
171.	Masood Textile Mills (Pvt) Ltd, 32 Km Lahore -Sheikhupura - Faisalabad Road	1
172.	Master Textile Mills (Pvt) Ltd, 3 Km Off Raiwind, Manga Mandi Road, Distt Kasur, Lahore	1
173.	Mohammad Farooq Textile Mills (Pvt) Ltd, 6&7, Sector 21, Karachi	1
174.	Moiz Textile Mills Limited(Pvt) Ltd, Lahore Road, Kasur	1
175.	N.R. Textile Mills (Pvt) Ltd, Faisalabad	1
176.	National Textile Mills (Pvt) Ltd,, National Highway Karachi	1
177.	Noon Textile Mills (Pvt) Ltd, Phularwan Bhalwal Road, Bhalwal	1
178.	Olympia Group (Pvt) Ltd, 23 Davis Road Lahore	1
179.	Orient Textile Mills, Plot # 501, National Highway, Karachi	1
180.	Prosperity Weaving Mills (Pvt) Ltd, Sheikhupura	1
181.	Quetta Textile Mills (Pvt) Ltd, I.I Chundrigar Road, Karachi	1
182.	Riaz Textile Mills (Pvt) Ltd, Lahore - Sheikhupura - Faisalabad Road	1
183.	Saad Textile Mills (Pvt) Ltd, 6 Km, Manga - Raiwind Road Manga Mandi, Punjab, Pakistan	1
184.	Saif Textile Mills (Pvt) Ltd, Kulsum Plaza, 4 th Floor, 2020, Jinnah Ave, Islamabad	1
185.	Salfi Textile Mills (Pvt) Ltd, Landhi Industrial Area, Karachi	1
186.	Sapphire Textile Mills (Pvt) Ltd, 7, Multan - Raiwind Link Road, Bobhtiyan, Jubilee Town	1
187.	Standard Textile Mills (Pvt) Ltd, Kotri	1

Ser	Departments / Agencies	No of Copies
188.	Star Textile Mills Limited (Pvt) Ltd Metroville, Plot No A-41 Fakhrudin Valika Road SITE Karachi 75700	1
189.	Superior Textile Mills (Pvt) Ltd Manga - Raiwind Road, Raiwind	1
190.	The National Silk and Rayon Mills (Pvt) Ltd, Jaranwala Road, Dhuddi Wala, Faisalabad	1
191.	Yunus Textile Mills (Pvt) Ltd C101 -130 S.I.T.E Nooriabad, 09, Noori Abad	1
192.	Yunus Textile Mills (Pvt) Ltd Landhi Industrial Area, Karachi	1
193.	Zahidjee Textile Mills (Pvt) Ltd Faisalabad	1
194.	Zahidjee Textile Mills (Pvt) Ltd, Lahore - Sheikhupura - Faisalabad Road	1
195.	Zaman Textile Mills (Pvt) Ltd, Street 2, Hyderabad	1
196.	Zaman Textile Mills (Pvt) Ltd, Bazar No. 1, Faisalabad	1
Internal		
197.	Senior Capacity Building Specialist, NIDM	1
198.	DD (Coord), NDMA	1
199.	NEOC, NDMA	1

Annex A
To Post Industrial Exercise held
on 16 March 2017.

LIST OF PARTICIPANTS

Ser	Departments
1.	Fauji Fertiliser Company (FFC)
2.	Deputy Commissioner Rahim Yar Khan
3.	Punjab Emergency Services (PES) – Rescue 1122
4.	Civil Defence Punjab
5.	National Disaster Management Authority (NDMA)
6.	Provincial Disaster Management Authority (PDMA) Punjab
7.	Provincial Disaster Management Authority (PDMA) Khyber Pakhtunkhwa
8.	Provincial Disaster Management Authority (PDMA) Sindh
9.	Joint Services Headquarter (JSHQ)
10.	Pakistan Army
11.	Pakistan Navy NBCD School, PNS Karsaz
12.	Pakistan Air Force, CBRNe Defence School (Masrur)
13.	Strategic Plans Division (SPD)
14.	Defence Science and Technology Organisation (DESTO)
15.	Pak Arab Fertiliser Private Limited
16.	Fatima Fertiliser Limited
17.	Fauji Foundation Power, Daharki
18.	Engro Fertilizer
19.	Pakistan American Fertiliser Corporation, Lahore
20.	Mari Petroleum Company Private Limited (MPCL), Islamabad
21.	TNB Liberty Power Plant, Mirpur Mathelo
22.	JDW-1
23.	JDW-2
24.	Sardar Ghulam Muhammad Sugar Mills Ltd Ghotki
25.	Ashfaq Sugar Mill
26.	Hamza Sugar Mill

Annex B
To Post Industrial Exercise held
on 16 March 2017.

PROGRAMME OF WORK

Ser	Time	Activities
1.	0850-0905 hrs	Arrival of Guests at FFC
2.	0905-0910 hrs	Recitation of Holy Quran
3.	0910-0915 hrs	Welcoming Remarks – General Management FFC
4.	0915-0930 hrs	Opening Remarks – Chairman NDMA
5.	0930-0940 hrs	Safety Briefing by FFC
6.	0940-0955 hrs	Disaster Exercise Briefing by FFC
7.	0955-1010 hrs	Disaster Exercise Briefing by District Administration
8.	1010-1025 hrs	Tea Break
9.	1025-1040 hrs	FFC Plant Visit
10.	1040-1120 hrs	Start Tier-I Exercise
11.	1120 hrs	Tier-I Exercise – All Clear
12.	1120-1145 hrs	Shifting of Observers for Tier-II Exercise
13.	1145-1345 hrs	Start Tier-II Exercise
14.	1345 hrs	Tier-II Exercise – All Clear
15.	1345-1445 hrs	Exercise Debriefing
16.	1445-1455 hrs	Closing Remarks – Chairman NDMA
17.	1455-1515 hrs	Shifting to Management Club
18.	1515-1605 hrs	Lunch
19.	1605-1625 hrs	Group Photograph
20.	1625 hrs	Dispersal