National Petrochemical Industrial Co.

Recover Better, Recover Stronger, Recover Together

NATPET

Communication on Progress SUSTAINABILITY REPORT 2019-20





ABOUT THIS REPORT

At National Petrochemical Industrial Company (NATPET) we are aiming to show our commitment to sustainability by revealing our efforts in the three sustainability pillars, in protecting the environment, improving the society and achieving the economical profit.



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2

NATPET

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER - CEO

- The way we look at responsibility and sustainability stems from an inner belief in our obligation to society, we believe that corporate entity should give back to society. Businesses are all a part of society, so we at NATPET feel an obligation and a responsibility to make things better for everyone. By acting on that, we are simply showing gratitude to the society we are living in.
- The legacy we want to leave is the idea that businesses and individuals have to strive to improve society. For instance, I have seen our employees engage and volunteer to clean old city and the sea bed of Jeddah. It was very exciting for me to see that our employees are motivated, without any financial reward, to participate in activities for the benefit of society. At NATPET, in terms of sustainability, we have focused on environmental issues so far because of the strength of our knowledge base in this area. However, I want to see the company expand beyond environmental challenges and embrace social and economic-related sustainability issues, we are always thinking about what else we can do. This is the legacy we want to leave to continue our responsibility to society in the best way that we can.







Management Commitment

UNGC Declaration





RC Global Charter

QEHSS & Responsible Care Policy







WE SUPPORT

Vision and Mission

Vision

 NATPET aims to be one of the major global players in the production and selling of top quality Polypropylene and polypropylene derivatives.

Mission

 NATPET strives to become a company of preferred choice in relation to its customers, employees, suppliers, society and stakeholders.

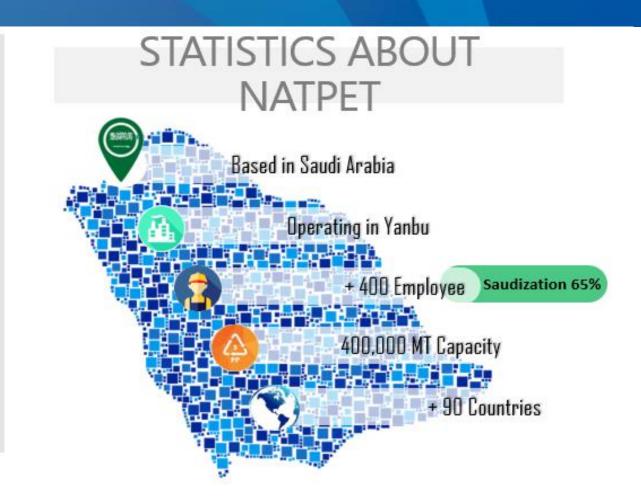
SAP Success Factor Perspective	Strategic Objectives 2020
Finance	 Managing cost with high efficiency and productivity.
Customer	 To meet and exceed customer's expectations related to product and associated services. Complying GPCA requirements for Responsible Care.
Process	 Improving core business processes through process redesigning innovation and continually improving QEHSS systems.
People	 Engagement and development of young talents through continuous feedback and support.

TQM Strategic Goals & Measures (2020)



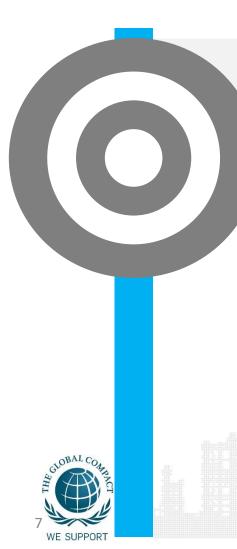
NATPET At A Glance

National Petrochemical Industrial Co. NATPET is a producer of 400,000 MT/ year propylene / polypropylene plant located at city of Yanbu on the west coast of Saudi Arabia. This Plant produces a wide range of polypropylene grades mix of (Homo-polymer & Copolymers) to serve diversified market segments, such as, rigid and flexible packaging, fiber, raffia, consumer goods, automotive, electrical appliances, medical, civil, infrastructure & many other applications.





TQM/Sustainability Achievement





Major Stakeholders

Alujain Corporation

المؤسسة العامة للتأمينات الاجتماعية General Organization for Social Insurance

yondellbasell Polypropylene Technology Licensor - Spheripol Process

2008

2011-12

Established Quality management system ISO 9001:2008, certified by SGS

Established lab management

system ISO 17025 :2005

accredited by DAC/GAC

2009

Established Environment management system ISO 14001, certified by SGS.

NATPET Stood 1st Position

in King Khalid Award

CSR Arabia and other

international awards

2010

King Khalid Award

Established Safety management system OHSAS 18001:2007 certified by SGS Achieved REACH registration

2016 - 2018 onward

Established Responsible care management system RC14001 2015 and revised all applicable standards

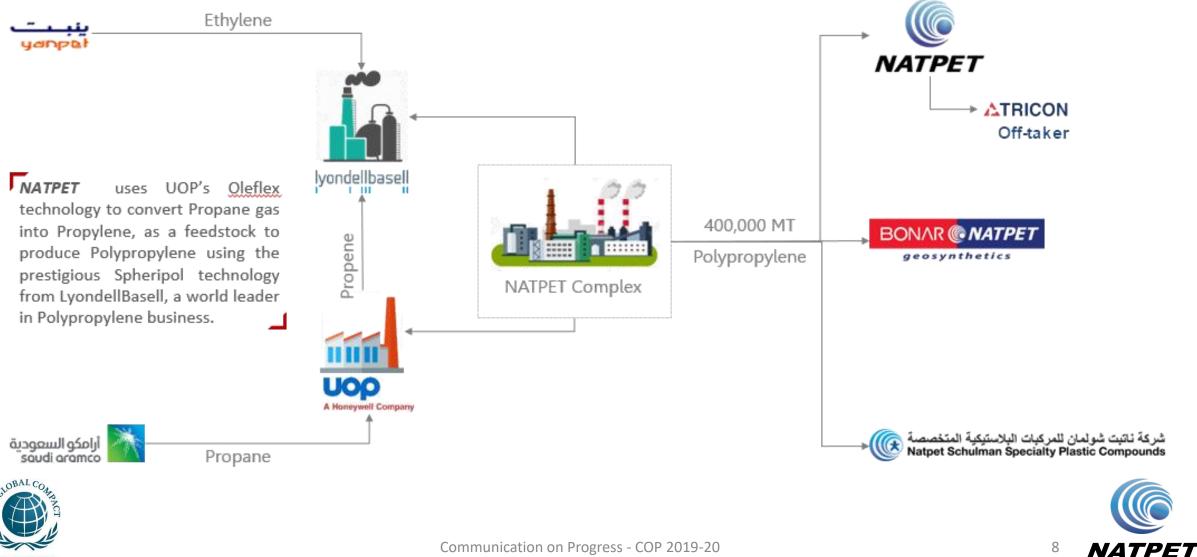


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2013-15

NATPET Value Chain

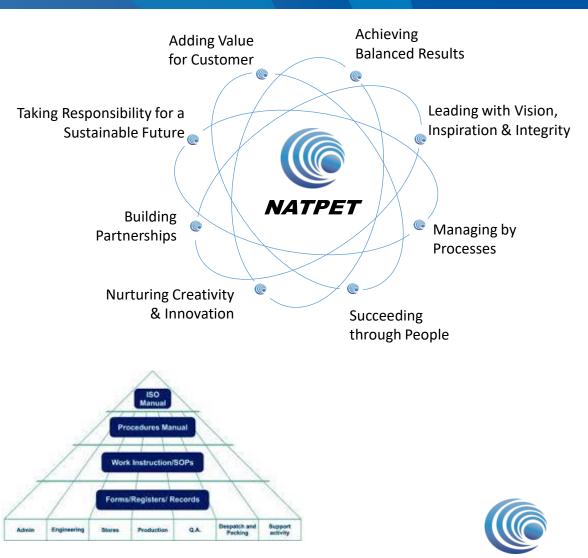
WE SUPPORT



NATPET TQM - Management Systems

- TQM processes are aligned with EFQM & "KKA RC Award 6 Core Areas"
- Objectives are set, cascaded down the level, KPIs are defined and monitored through Balance Score Card
- NATPET Management System is managed through strategically aligned processes using fact-based decision making to create balanced and sustained results.
 - In total we have more than 850 documented procedures.
- NAPET Identity Guidelines Manual (in practice)
 - To maintain our standards and ensure that all communications will follow one protocol in line with NATPET corporate image
- NATPET Level of Authority (in practice)
 - To ensure the efficient operation of NATPET by implementing proper controls through the appropriate approvals and delegation of authority required for various transactions and activities





Commitment to Good Governance

NATPET Sustainability Programs

NATPET UNGC Declaration

NATPET submitting Communication on Progress COP since 2014.

GRI Reporting Sustainability, Key Stakeholder & Material Issue

International Certifications

- 1. ISO 14001:2015 Environment Management System
- 2. ISO 9001:2015 Quality Management System:
- 3. RC 14001:2015 Responsible Care Environment, Health, Safety, Security Management System
- 4. OHSAS 18001:2007 Health & Safety Management System
- 5. ISO 17025:2005 Laboratory Accreditation Certificate
- 6. ISO 22000:2018 Food Safety Management System
- 7. ISO 27001:2013 Information Security Management System*
- 8. ISO 22301:2012 Business Continuity Management System*
- 9. ISO 50001:2011 Energy Management System*
- 10. *Certification expected by June 2021.









Core Area 1

Building a Nationally Competitive Workforce





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HR Mission Statement

 We strive to recognize and support the staff and community by being sensitive and culturally aware. We also strive to balance competence in the technical aspects of our work with sensitivity to the individual needs and situations of staff, keeping the bigger picture in mind as we administer the details.

Equal Opportunities Policy

- NATPET is committed to provide equal opportunities and to avoid unlawful discrimination in employment. Striving to ensure that the work environment is free of harassment and bullying and that everyone is treated with dignity and respect, which is an important aspect of ensuring equal opportunities in employment.
- Clarifications:
- It is unlawful to discriminate directly or indirectly in recruitment or employment because of age, disability, sex, pregnancy, maternity, race, religion or belief.



NATPET Employees Benefit

- The company provides all benefits as mentioned in labor law in addition to that NATPET provide:
- Life insurance 36 Monthly basic salary
- Bonuses,
- Merit salary increase,
- Education Allowance,
- Full medical coverage,
- Special Leaves (Hajj, Maternity, Paternity, Marriage, Etc.) according to Labor law.
- Housing and Transportation allowance
 - (Minimum 18,000 for bachelor and 25,000 for married or 3 basic which ever higher),
- Examination Leave, Emergency Leave,
- Business Trip and per-diem, Compensatory time off (Thursday), Social Gathering,
- Ramadan Gift, Performance award, Training courses in-house & external
- Recreation Club Membership
- Al-Nakheel Holiday Program





Human Resource Documents

- Organization Structure Manual:
- Compensation & Benefit Manual:
- Salary & Administration Manual:
- PMS & carrier Development Manual:
- HR policy Manual:
- Recruitment & Selection Manual:





- Human resource is providing ESS services through out the organization to fulfill the level of employee satisfaction.
- Employee Suggestion Scheme Innovation





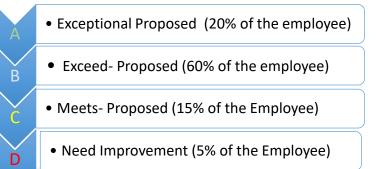
Performance Management System (PMS)

- The Performance Management System (PMS) has been implemented using SAP (Success Factors).
- Establishing company-wide objectives and cascading down the level by using Balance Score Card
- Performance management system works based on the Balance Score card which include:
 - Safety
 - Financial
 - Customer
 - Training & Development
 - Internal Process

Out Standing	(A)	20%	(95%-1	00%)	- 3 -3.5B	6
Exceeding Expectations	(B)	60%	(849	% - 94	%) 2 - 3 E	3
Meeting Expectation	(C)	15%	(75%-	83%)	1– 1.5 B	1
Not Meeting Expectation	(D)	05%	65%	- 74%) 0.5B	
Unsatisfactory	Les	ss tha	ın 64%	-	0	

Bonus Distribution Plan - Sample

Ranking Categories



Unsatisfactory 5% of the Employee

GoalStatus:Appraisal											
\sim Introduction											
Use this worksheet to add or update goals. To quickly add a new goal, click	Use this worksheet to add or update goals. To quickly add a new goal, click the "Add Goal" button, or browse the hierarchy section to find an existing goal to add to your plan.										
Goal Status is showing the Goal Plan state. It can be "Setting by Employee", "Setting by Manager", "Approved" and "Appraisal". The sum of weights of all goals must not exceed 100. The weight of each goal must be between 5 to 50.											
There are 4 Goal Categories to add goals to. Apart from cascaded goals from the leadership, you may add goals by filling all fields or choose a goal from Success Factors Goal Library and modify it, or using the SMART Goal Wizard.											
Displaying 1-4 of 4 Goals											
Total Weight: 100.0% (Min:1, Max:20)											
Financial # Goal Name	Weight	Start Date	Due Date	Completion	Status	KPI	Sub Category	Action			
1.1 Assisting in timely submission of error free payroll Edit	25.0%	01/01/2017	31/12/2017	0.0%	In Progress	no off errors		0 0.			
Alert - Linked by Hasan Abdullah Al Shaikhi 16/10/17 14:19 clear ale	ert										





Monitoring Employee Satisfaction

A – INTERNAL SURVEY:		61 to	80%	41 to 60	0% Т	otal
	A.3 - Are you fully aware of your job requirements?	32	2%	12%		44%
			Neutr	ral Di	ssatisfied	Total
pment	A.4 - Does the related approved procedur present the true picture of your function?		28%	6	8%	36%
			Neutr	ral Di	ssatisfied	Total
	A.5 - What is your overall satisfaction wit Marketing and Sales Department?	h	12%	6	8%	20%

On a five-point scale, where <u>5 means strongly agree</u> and <u>1 means strongly disagree</u>, please rate your level of agreement with the following items

	1	2	3	4	5
1. I know what is expected of me at work.	0	\bigcirc	0	0	
I have the materials and equipment I need to do my work right.	0	0	0	0	۲
3. At work, I have the opportunity to do what I do best every day.	0	0	\bigcirc	\bigcirc	0
 In the last seven days, I have received recognition or praise for doing good work. 	0	0	0	0	0
5.My supervisor, or someone at work, seems to care about me as a person.	0	O	0	0	0
 There is someone at work who encourages my development 	0	0	0	0	ø
7. At work, my opinions seem to count	0	0	0	0	0
8. The mission or purpose of my company makes me feel my job is important	0	0	0	0	0



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Sustainability Programs

YoungTalent

Young workforce are more technological oriented & lead the digital revolution"

Training and Career Development

NATPET Partnership with NGOs

NATPET and Al Nabta Collaboration provides services and products that

contribute to sustainable development.

Waste Free Environment - WFE

Waste Free Environment aims to promote recycling and to raise awareness on responsible litter disposal, aims to change people's attitude and mindsets towards litter disposal and raises the need for communities to respond to environmental issues.

Developing Leaders of Tomorrow – LoT

Leaders of Tomorrow is an initiative launched by GPCA, aims at building the local human capital in the region, bridging the gap between academia and the industry





Understanding NATPET Human Capital

Employees / Age	67+	48-66	36-47	18-35	Total Employees
Total	4	84	151	224	463
Saudi	1	23	85	191	300
Expat	3	61	66	33	163
Total in %age	0.86%	18.14%	32.61%	48.38%	Nationality's Percentage
Saudi	0.33%	7.67%	28.33%	63.67%	64.79%
Expat	1.84%	37.42%	40.49%	20.25%	35.21%





Code of Conducts

- Deal with others in a sincere and honest manner and observe the highest ethical practices and principles in conducting the business affairs of the Company.
- Observe principles of good behaviour and abstain from any acts that may adversely affect the reputation of the Company.
- Devote time and effort in the workplace to the performance of work and not towards wasting the time of others.
- Cooperate with colleagues in a manner which promotes the efficient conduct of Company business.
- Be attentive to general personal appearance to reflect favourably on your affiliation with the Company.
- Always behave for the best interest of the Company in all business relations including relations with customers, governmental authorities, your supervisors and colleagues.
- Understand and act on the basis that all employees share the responsibility for supporting and adhering to the Company's objectives related to internal administrative and financial control.
- Do not participate, as either a paid or unpaid party, in any media related activity, e.g., speeches, publications, except with the written permission from an authorized Company official.
- Do not accept any gifts or benefits from external or internal parties, whether such gifts or benefits are for you or for any member of your family, if such acceptance may influence or interfere with your decision or performance of your duties at the Company in favour of such parties.
- Under no circumstances, offer or try to offer any bribe or other financial inducement to a prospective customer so as to promote the Company's products or services or with a view to affect such customer's decision in one way or another.
- Do not accept any bribe or inducement, of whatever type or achieve any purpose, such of a contract or purchase a prospective vendor or supplier, or giving information to such vendor or supplier. If a bribe or any other inducement is offered to you, promptly report same to your superior.
- Do not utilize functional authority for personal gain.

		Document.: HR / HRP / 1.1		
(The	Human Resource	Issue No. : 01		
@	Human Resource	Issue Date : 01.06.2008		
NATPET		Rev. No. : 0.3		
	Policy	Rev. Date : 01.06.2008		
		Page # : 18 of 43		

CODE OF CONDUCT

1. Basic Policy

It is vital that employees understand the Code of conduct for which they are to be held accountable and that they know the consequences of breaches in their conduct.

2. Responsibilities

All employees, without exception, are expected to know the Company's Code of Conduct and to behave accordingly.

- 3. Code of Conduct
 - a. Deal with others in a sincere and honest manner and observe the highest ethical practices and principles in conducting the business affairs of the Company.
 - b. Observe principles of good behavior and abstain from any acts that may adversely affect the reputation of the Company.
 - c. Devote time and effort in the workplace to the performance of work and not towards wasting the time of others.
 - d. Cooperate with colleagues in a manner which promotes the efficient conduct of Company business.
 - e. Be attentive to general personal appearance to reflect favorably on your affiliation with the Company.
 - f. Always behave for the best interest of the Company in all business relations including relations with customers, governmental authorities, your supervisors and colleagues.
 - g. Understand and act on the basis that all employees share the responsibility for supporting and adhering to the Company's objectives related to internal administrative and financial control.
 - h. Do not participate, as either a paid or unpaid party, in any media related activity, e.g., speeches, publications, except with the written permission from an authorized Company official
 - i. Do not accept any gifts or benefits from external or internal parties, whether such gifts or benefits are for you or for any member of your family, if such acceptance may influence or interfere with your decision or performance of your duties at the Company in favor of such parties.
 - Under no circumstances, offer or try to offer any bribe or other financial inducement to a prospective customer so as to promote the Company's products or services or with a view to affect such customer's decision in one way or another.
 - k. Do not accept any bribe or inducement, of whatever type or achieve any purpose vendor or supplier, or giving a contract or purchase a prospective







Ethics and Protection

Whistleblowing Policy

- Introduction:
 - This policy applies to all employees of the NATPET, other individuals performing functions in relation to the NATPET, such as service providers and contractors, are encouraged to use it.
 - It is important to the business that any fraud, misconduct or wrongdoing by staff of the NATPET is reported and properly dealt with. The NATPET therefore encourages all individuals to raise any concerns that they may have about the conduct of others in the business or the way in which the business is run. This policy sets out the way in which individuals may raise any concerns that they have and how those concerns will be dealt with.
- Summary:
- The NATPET provides protection for workers who raise legitimate concerns about specified matters. These are called "qualifying disclosures". A qualifying disclosure is one made in the public interest by a worker who has a reasonable belief that:
- a criminal offence;
- a miscarriage of justice;
- an act creating risk to health and safety;
- an act causing damage to the environment;
- a breach of any other legal obligation; or
- concealment of any of the above is being, has been, or is likely to be, committed.
- It is not necessary for the worker to have proof that such an act is being, has been, or is likely to be, committed a reasonable belief is sufficient. The worker has no responsibility for investigating the matter it is the NATPET's responsibility to ensure that an investigation takes place.
- A worker who makes such a protected disclosure has the right not to be dismissed, subjected to any other detriment, or victimised, because he/she has made a disclosure.
- The NATPET encourages workers to raise their concerns under this procedure in the first instance. If a worker is not sure whether or not to raise a concern, he/she should discuss the issue with his/her line manager or the HR department.





Training and Career Development

Vision

To equip NATPET employees with the best training to meet Company Targets/Goals.

Impact of Training on NATPET Economic Performance

- NATPET invests in skills to prepare economies and labor markets for the demand and changes of increased global competition.
- NATPET also offers training opportunities and create learning potential and became learning organization in which workers have the opportunity to develop professional and social competences through peer learning.
- Investments in training have a positive and significant impact on NATPET economic performance indicators.

Mission

To help NATPET employee be the best among the leading competitors in Petrochemicals industries.

Benefit in investing Training

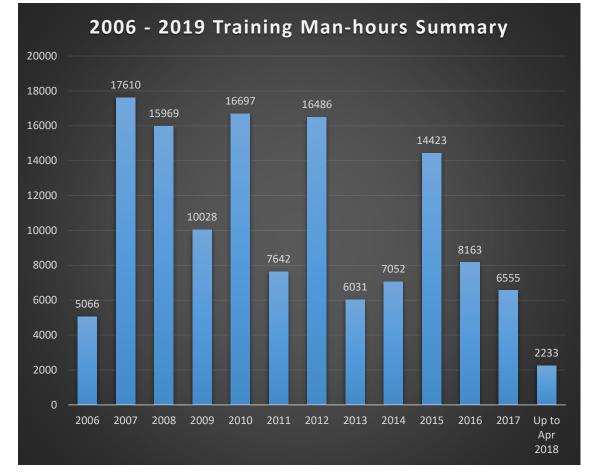
- Enhancing employees competencies
- Increase and Improve:
 - Quality of People
 - Quality of Products
 - Productivity: Achieved Targeted Plans
 - Cost: Eliminate/Reduce Equipment Failure and Downtime
 - Material Flow: Eliminate Spare parts Shortage/Over Stocking
 - Safety: Safe Working Environment, Procedures and Process
 - Man Power: Control Turnover/Successful Succession Plan





Training and Career Development

- Training Programs For Continuous Development
 - Management & Behavior Training (Soft Skill)
 - Technical Training
 - Academic Training (College Sponsorship , Co-Op / summer training for undergraduate students , Internship)
 - PDPs and OJTs training
 - Safety Training (HSE & Fire Department)
- Coop/ Summer Training (Program Brief)
 - This program is developed as part of to support Universities and Colleges students to get real work life experience:
 - Average capacity of acceptance to the program 20 students.
 - Assigned as per their qualification to the different department
 - Working and treatment as employee (punctuality, attitude, assignments)
 - End of program evolution.







Maintaining & Continual Improvement of NATPET Integrated Management system Systems (IMS)

- Gulf Sustainability Quality Assessment System GPCA
 - Saudi Bulk Transport SBT
 - SA Talke
 - Almajdouie & De Rijke Limited Co MdR
 - Developed for Gulf SQAS.
- Participation in Customer satisfaction programs
- Regular Internal System Audit on established IMS with the help of internally trained TQM Coordinators.
- King Khalid Award Ambassador Program to develop local vendors & suppliers



Dear.....

The King Khalid Foundation and Ambassador are pleased to invite your company to participate in the 2019 King Khalid Sustainability Award.

With a legacy of eleven years and over 550 participants, the Award is the first and leading sustainability recognition in the Kingdom that focuses on enabling, developing and applying sustainability in business.

The Award is supported by a comprehensive, robust and proprietary company performance assessment methodology that is designed to differentiate sustainability leaders from their peers. The Award can enable your company to optimize its sustainability strategies and ESG practices, in line with global and national sustainability best practices and mandates.

The Award process culminates with the annual King Khalid Awards Gala, where winning companies are recognized for their excellence by The Custodian of the Two Holy Mosques King Salman bin Abdulaziz.

For more information, visit the <u>King Khalid Award</u> website. The application will remain open until 14th April, 2019.

المنادة

يس مؤسسة الملله عدالا وسفير جائزة الاستانية تتركةوعزة مشكم المشاركة في "جائزة الملله خداد الاستمانية الدام الجاري 2019. حيث تشرر الجلازة من أمم المبائرات الوطنية التمرية منذو تشتينها قبل أحد عشر عماً ، وتشتر الجائزة الأولى والزائدات في المملكة التي تركز على تمكنون وتطوير وتطبيق الإسكامة في مجال الأعمال الجارية. وشارك فيها ما يزيد عن 550 مشألا.

الطرلاة تكنت على منهجية تماملة وقرية القويم أهاه المنتكاف ، حيث كم مسميها القريق بين رواد الاسكنامة من أورانيم 11 أخريني . الحالات أمام من كمن استثلقا على تمسين استراتيمويك الاسكامة بما في القضر منها البنيقية الاجتماعية والحركمة ، والله تمتجا مع أمصل المدارسك المالمية والميافية ذات المداية الماستهم. سيتم تكريم الفاترين بالجائزة في "الحل الحكامي للجائزة" والذي يرعد خام الحرمين الشريفين الملك ملمان بن عبد الحزيز حفظه الهُ

للحصول على مزيد من المطومات، قم بزيارة <u>موقم جائزة الملك خالد</u> الالكتروني _ااستقبال طلبات التسجيل لازال مفتوحا حتى تاريخ 14 أبريل 2019





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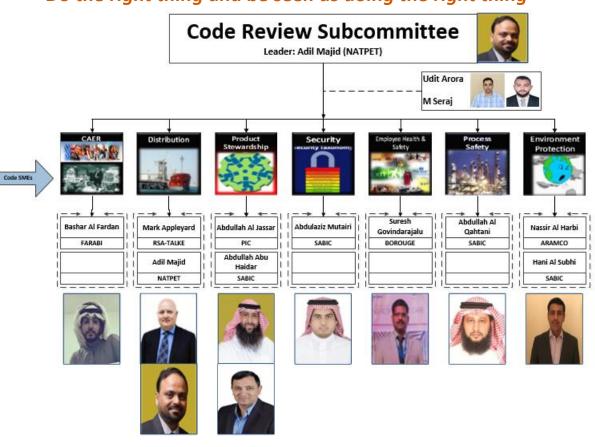
Commitment on Responsible Care

Responsible Care[®] is an ethic by which the global chemical industry has pledged to conduct its business. Responsible Care[®] is a worldwide performance improvement initiative based around agreed-upon features *"Do the right thing and be seen as doing the right thing*

GPCA – Responsible Care Committee NATPET – TQM is the team leader for responsible care code committee and revised codes of Practices Jan 2018 Implemented at NATPET







NATPET HSE STATISTICS YTD (September 2020)

Highlights:

- 122,357 safe man hours for the month
- 4.00 Million Safe Man-hours
- 728 Safe Work Days, since the last Loss Time Incident (LTI)
- Lost Time Incident Rate = 0.0
 (Target : LTIR = 0.0)
- Total Recordable Incident Rate = 0.0 (Target : TRIR < 0.12)





Major Milestones

- Safety Achievement GOLD Award from RosPA
- Industrial Leader Award from National Safety Council, USA
- International Safety Award from British Safety Council, UK
- Perfect Record Award from National Safety Council, USA
- Corporate Hazard Recognition Award from National Safety Council, USA
- Million Hours Award from National Safety Council, USA
- 9.14 Million Safe Man Hours & 1791 Safe Days away from LTI
- Recorded Zero Lost Time Incident and Zero Lost Time Incident Rate (LTIR) in 2017
- Recorded Zero Medical Treatment Case and Zero Total Recordable Incident Rate (TRIR)
- Completed Major Drill in October in coordination with YAMA members companies
- Significant improvement in Near Miss Reporting (2298 reports in 2017)
- Establishing Lessons Learnt & News Letters
- Training of ISD Procedures through E-Quiz
- Help to Quit Smoking habit an initiative of PDH







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Core Area 2

Innovating Solutions for Sustainable Development





26

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Waste Free Environment - WFE

- Waste Free Environment aims to promote recycling and to raise awareness on responsible litter disposal, aims to change people's attitude and mindsets towards litter disposal and raises the need for communities to respond to environmental issues.
- During the annual NATPET Waste Free Environment campaign, which takes place between February and March, responsible and enthusiastic NATPET volunteers, various organizations, community members and educational bodies, join hands and engage in campaign activities to dedicate their time back to their environment.
- WFE focuses on the 3 R's: Reduce, reuse and recycle.
- NATPET initiated WFE program since 2014.

Date Feb 25th, 2018	Site Makarem Annakheel Village/ Beach, Jeddah	Activities • Beach Clean Up • Park/Community Area Clean Up • Awareness to Schools Children			
Item	Number	Comment			
Number of People attended	600 Plus	Government officials and public			
Number of divers attended	60	In two shifts 09:30 & 11:00			
Number of Schools	Three	 Al FALAH school Prince Bandar bin Abdul-Aziz school Umar Farooq School 			
Number of Universities	None				
Amount of Waste collected (kg)	806	 437 kg of plastic related waste such as chairs, bottles, fishing ropes, 215 kg metal waste (cans, steel wires, iron rods etc.) 154 kg rubber related and other materials 			
VIPs (Kindly List the Names)	Authority of Meteo	Waleed Suliman Alhejaili - (Director General of General hority of Meteorology and Environment Protection Mohammed – King Khalid Award Association			





Developing Leaders of Tomorrow – LoT

- Leaders of Tomorrow is an initiative launched by GPCA, aims at building the local human capital in the region, bridging the gap between academia and the industry. Leaders of Tomorrow is considered as the first official collective step where industry stakeholders collaborate in shaping skills and preparing the future industry leaders with the required skills set.
- NATPET is an active member in sponsoring students to attend the GPCA yearly conferences. Each conference will cater to the participating students by encompassing an element of the initiative in the form of a seminar, workshop, roundtable and site visit.





OBAL COAR

Year	# of Students Sponsored	Institutions	No. of Programs
2017	9	KFUPM; KKA; KAUST	4
2018	13	KFUPM; KKA; KAUST	5
2019	8	KFUPM; KKA; KAUST	3





NATPET Joint Initiative with Royal Commission

Environmental Awareness at DANA Mall

- NATPET Environment section organized environmental awareness and excellence competition in DANA Mall in collaboration with the local environmental regulatory authority, Royal Commission Environment Control Department at Yanbu and RC primary education department.
- NATPET Participation in Flowers and Plant at RC Yanbu.

Cleaning of Coastal Area

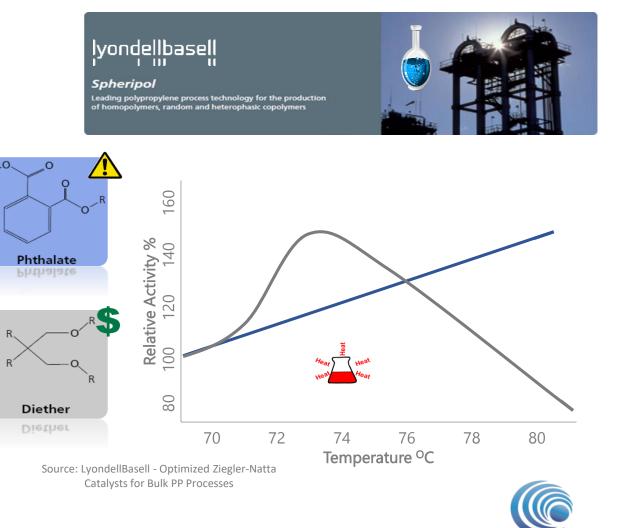
- NATPET Environment Section initiated beach cleaning campaign & school Children Environmental awareness.
- Room furnishing inside RC Environmental Protection Control Department.
- The theme was "Clean & Green Environment".





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- Optimized Ziegler-Natta Catalyst for PP process
- Diether Donor Catalyst For Better Environment
 - The behavior of a catalyst in a bulk reactor is mainly determined by the internal donor that is used to make the catalyst.
 - Changing to Diether based catalyst was part of NATPET R&D practice even before LYB implementation on their Spheripol plants.
 - The following are some of the result of using Diether catalyst:
 - NATPET is one of the first plants in the world using Phthalate free catalyst even before the license provider.
 - Innovation in fiber process by introducing Phenol free fiber as the first Spheripol plant in the world.
 - Biaxially oriented polypropylene BOPP enhancement due to diether based catalyst.





• Phenol Free Fiber



• Neumag Remarks

Numag is the worldwide market and technology leader for complete plants

• Neumag asked NATPET to be the reference material in their trials for phenol free products.



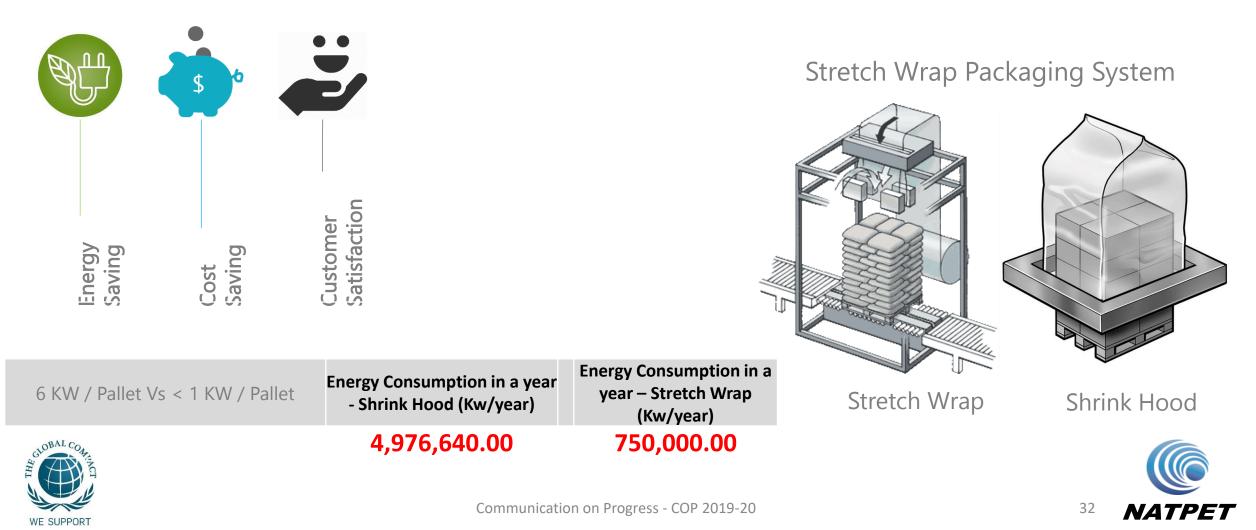
Conclusion

During all the trials the new NATPET PP grade showed a good performance and enables to run the processes faster than the guarantee speeds for the S+ machine for these products. With the coarser 10dpf product the only

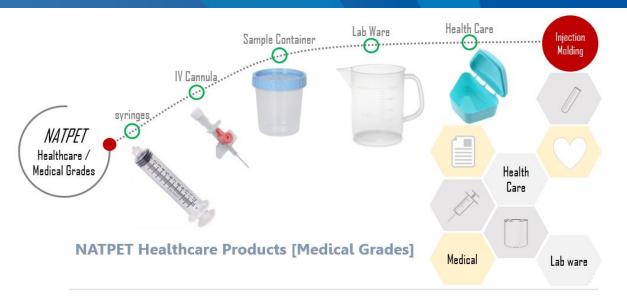




Cost & Energy Saving by Stretch Wrap Packaging System



- NATPET is the first healthcare and medical grade producer in the middle east and Africa.
- Optimization Trial Plan:
 - Run the new resin with the same parameters of old resin
 - Optimize the temperature with the new resin
 - Optimize the cycle time with the new resign
- Evaluation of the trial setting:
 - Energy was measured and recorded for the three above steps
- Al Shifa were able to increase the production capacity from 780 million syringes/year to 904 million syringes/year



	RESULTS C	DBTAINED		COM	1PAF	RISON	
20 15 10	16.30%	16.83%	Resin	Peak Barrel Temp (°C)	Cycle Time (s)	Specific Energy (kWh/kg)	% CO ₂ Emissions Saved/ ton PP
	v ing	Ē	Traditional resin	245	20,8	1,1613	•
2		uctiv	NatPet R40MLT-MG	210	20,8	1,1507	0,9
0	с с ц	L L L	NatPet R40MLT-MG	210	17,3	1,0324	11,1





Percentage of customer saving on energy and increase in productivity due to Teldene R40MLT-MG

ABC Project

Serving customer in their technical queries, regulatory compliance, and grade specifications.



- Helps customer to place an order or ask for samples **NATPET**
- Addressing customers' concerns, observations, complains and providing technical support



Multichannel to Omni channel presence

- Facebook Presence
 - Enhance employees solidarity towards the company.
 - Show NATPET's participation in worldwide events.
- LinkedIn Presence
 - Create a direct communication channel with • convertors.
 - Increase awareness about plastic recycling and disposal.



VR Project

- Show the production process through VR to Traders/Convertors during Exhibitions.
- Use VR headset for awareness and • training sessions for employees.

Tutorial videos for converters

- Tutorial videos on how to unpack, store and properly use our product.
- This will reduce the number of complaints and queries received.









Core Area 3

Empowering Local Suppliers





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Responsible Supply Chain Management

- Shorter Procurement Cycle Encouraging Local Sources.
- Developing Local Suppliers as a business partner.
- Zero waiting hours, with competitive prices & quality.
- Developing contractors and sponsoring in various conference SQAS LSP.
- Suppliers assessment and evaluation are effectively followed.
- NATPET Standard Terms & Conditions include:
 - Article# 12.3 & 12.4 specifically in order to obtain commitments from Suppliers on EHSS & Pollution issues.
 - Article# 12.6 speaks of 'Social Obligations'.
 - Article# 18 encourages preference of National Products/Resources.



Responsible Supply Chain

SUPPLIER ASSESSMENT

- Suppliers are assessed, accepted or rejected on definable basis such as:
 - Availability, quality and stability of financial, technical, administration, manpower & material resources.
 - Availability of Materials, Services & Payment Terms.
 - Past experience, reputation, safety awareness and records in addition to competing abilities commercially and technically.
 - Efficiency in attending and resolving work difficulties and problems.
 - Production capacity in terms of quality, quantity, durability and uniformity (if applicable).
 - Technical capabilities and activities for product testing and development researches.
 - Product warehousing requirements (if required).
 - Locations of manufactures, sale offices and maintenance work shops.
 - Availability and capability of facilities for after sale services/support.
 - Shipping and delivery efficiency.

Evaluation Of Supplier Performance

- Good in responses & meeting delivery Schedule.
- The evaluation reports of Contracts Administrators for Supplier's performance during and by contracts closure, which should indicate to the strengths and weaknesses of each Supplier.
- Competitiveness of Suppliers as per quotes/bids received from Suppliers.
- Management and financial capabilities of major Suppliers, as per NATPET review of annual reports received from Suppliers.





NATPET Logistics Service Providers (LSP) Development

- Saudi Bulk Transport SBT
 - Business Suspended on 9th August 2017 due to service quality issue.
 - NATPET worked together with SBT to resolve the problem and to regain their business.
 - SBT resolved all issues and approved for Gulf Sustainability Quality Assessment Scheme (Gulf SQAS)
 - Business Resumed with NATPET dt 17-06-2018
- SA Talke
 - Transforming logistics documentation to paperless.
 - Logistics Department has implemented the paper less solution for its container/ Truck check list using iPAD
- Almajdouie & De Rijke Limited Co MdR
 - Developed for Gulf SQAS.



S.A. TALKE

س.أ.تالكي

بركةالمحدوعي ردى رابكه الليوجيستيية Imaidouie De Riike Logistics Co

Saudi Bulk Transport Ltd.				
Location:	Jeddah (SA)	Module:	Warehouse (14WH)	
Assessor:	Khalid A. Mabrok	Date:	11-06-2018	
Agency:	TUV NORD	Status:	Active	

Improvement Action Plan - Updated on 01-07-2018







Core Area 4

Making a Commitment to Good Governance and High Quality





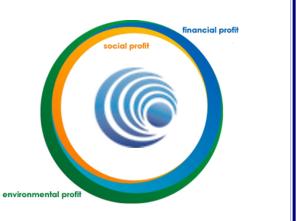
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Commitment to Good Governance

NATPET Sustainability Policy

PETROCHEMICAL INDUSTRIAL COMPANY NATIONAL PETROCHEMICAL INDUSTRIAL COMPANY NATPET Sustainability Policy						
At National Petrochemical Industrial Company (NATPET) responsible care, environment, health, safety, security, quality of processes/products and customer's satisfaction are the prime concerns. Therefore, NATPET management and employees are committed to perform their duties in sustainable manners.						
We are committed to reduce our impact on the state of the	ne environment and improve sustainability by					
Our sustainability program has three componer	its:					
Culture: Create a culture of sustainability in	all our business units and in all our daily work.					
 Progress: We promote our employees' awareness and understanding of sustainability. We continue to foster a corporate culture of transparency, disclosure and engagement. 						
 Operations: Take action to reduce the sustainability impact of our own activities. 						
Khalid Ibrahim Zagzoog Manazine Director/CED	Dated: 14 th May 2019 Issue: 2					



Community Awareness & Education Policy







Sustainability, Key Stakeholder & Material Issue

Our List of Key Stakeholders

- 1. Shareholders.
- 2. Customers.
- 3. Employees.
- 4. Government.
- 5. External Organizations e.g. GPCA.
- 6. Local Community.
- 7. Suppliers and contractors.
- 8. Distributors.
- 9. Banks.
- 10. Academic and Non-Profit Organizations.
- 11. Media.

Our List of Material Topics

- 1. Health and safety.
- 2. Waste management.
- 3. Customer satisfaction.
- 4. Business continuity.
- 5. Product quality.
- 6. Anti-corruption.
- 7. Financial performance.
- 8. Corporate Governance.
- 9. Education and training.
- 10. Labor rights.
- 11. Protecting the environment.
- 12. Sustainability.
- 13. Corporate social responsibility.
- 14. Reputation.
- 15. Energy consumption.
- 16. Raw materials & resources.





Commitment to High Quality

- RC 14001:2015 Responsible Care Environment, Health, Safety, Security Management System
- ISO 14001:2015 Environment Management System
- ISO 9001:2015 Quality Management System:
- OHSAS 18001:2007 Health & Safety Management System
- ISO 17025:2005 Laboratory Accreditation Certificate
- ISO 22000:2005 Food Safety Management System
- ISO 27001:2013 Information Security Management System*
- ISO 22301:2012 Business Continuity Management System*
- ISO 50001:2011 Energy Management System*
- *Certification expected by Oct-Nov 2018

- NAPET Identity Guidelines Manual (in practice)
- To maintain our standards and ensure that all communications will follow one protocol in line with NATPET corporate image.
- NATPET Level of Authority (in practice)
- To ensure the efficient operation of NATPET by implementing proper controls through the appropriate approvals and delegation of authority required for various transactions and activities.





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Financial Excellence

- NATPET maintains highly transparent systems for the availability of information, disclosure and reporting. The Management prepares and present fairly, the financial statements of the company in compliance with the International Financial Reporting Standards (IFRS), that are endorsed in the Kingdom of Saudi Arabia and other standards and pronouncements issued by SOCPA, and the applicable requirements of the regulations for Companies and the Company's By-laws.
- The company's financial statements comprise the following:
 - The statement of Financial Position
 - The statement of Income
 - The statement of comprehensive income
 - The statements of changes in equity
 - The cash flow statement
 - And the notes to the financial statements, which include a summary of significant accounting policies.
- It is important to disclose the true condition of the company conveying the financial state to the shareholders and investors.
- NATPET financial accounts are being audited by one of the Big 5 Accounting Firms were



Charity & Donations







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Quality Assurance

NATPET ISO 17025 Accredited Lab

- NATPET Lab is a certified ISO/IEC 17025 testing laboratory.
- This ISO Quality System is deemed necessary to ensure the technical competence in testing and reporting results for customers' satisfactions





- NATPET Lab is committed to keep the testing quality as per the international highest standards.
- Major Test Methods are being reviewed and updated with the latest ASTM, ISO and Basell standard methods.





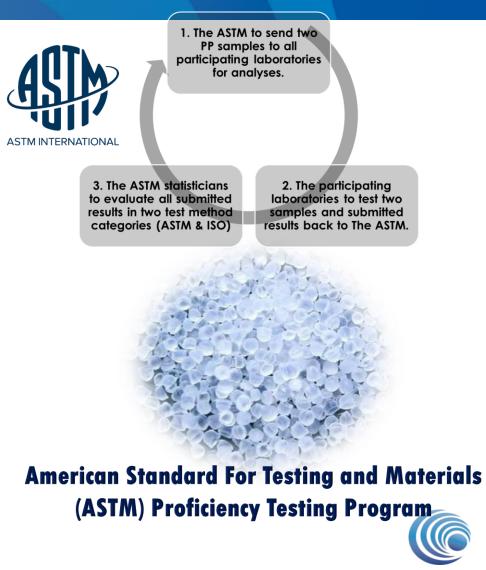




Proficiency Testing Performance Verification

- NATPET Lab ensures the testing performances of every personnel is on a par with the other laboratories through ASTM Proficiency Testing Programs (PTP).
- The reliability of the equipment and the lab personnel doing the tests are competent.







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Career Development Training Plan

- General Awareness
 - Newly hired personnel will undergo lab safety awareness and do observations of all lab activities
- Deeper Understanding
 - Then, they will be given technical knowledge and test familiarizations.
- Beginning Skill Development
 - When ready, they will start performing actual routine analyses under strict supervisions of lab supervisors and mentors in 3 labs (Utility, PDH & PP) on rotational basis
- Advanced Skill Development
 - Two qualified mentors are assigned to evaluate their acquired skills and so to carry out further for their progressive career advancements.
- Master Status
 - Everyone is encouraged to acquire mastery and to pass on (teach) their expertise to the others.







NATPET State-of-the-Art Facility

Sustainable Testing

- Adoption of NMR's Capability.
 - NMR technique reduces analysis time, requires less manpower skills, and save chemical costs, thus making it environment-friendly.
- Adoption of Hydrocarbon Analyzer.
 - Operation can monitor the efficiency of Depropanizer.
- Lab supports all new developments through reliable quality tests:
 - Everclear 3988B Vs Millad NX-8000 additives.
 - Phenol-based Vs free phenol additives (Teldene H25FBA)
 - Phthalate-based (ZN-118) Vs non-phthalate-based (ZN-128)

Business Continuity

• Almost all 21 major test requirements have backup methods and/or instruments.

Major Analyses	Primary and Backup Methods
Melt Flow Index	5 MFI machines
Xylene Solubles	classic method and NMR
Carbon Analyzer for Catalysts	2 LECO instruments
Gas Chromatographs	4 GCs and 11 backup GCs
Additives Analyses	XRF and FTIR







Laboratory Collaboration

- In-house Collaboration:
 - Collaboration between NATPET and Schülman Labs to minimize Catastrophic issue



• External Collaboration:

WE SUPPOF

 NATPET Lab has strong relationship with other petrochemical laboratories for mutual analytical supports and risk assessments, when required.





ىنساب

ydnsdb







Appreciation Letter on Collaboration Between Cristal and NATPET



28th May 2015

The National Petrochemical Industrial Co. NATPET

Addressed to: Matouq Hassan Jannah Managing Director of Operation & Maintenance

Subject: Appreciation towards establishing the collaborative program between Cristal and Natpet

Dear Mr. Jannah

Best regards

I would like to take this opportunity to express our gratitude towards the genuine response that Natpet has bestowed in the direction of establishing a collaborative program between our laboratories in terms of all possible testing, equipment and chemicals.

The exchanged visits between our laboratory's teams that took place recently, demonstrated a successful initiative for collaboration. This will certainly form a solid relationship between Cristal and Natpet laboratory's experts and will lead us to an advanced level of technical knowledge teamwork that will contribute to the success of our national industries.

Once again, thank you for your support and endorsement for the continuing collaboration between our companies.

gunge

Abdullah Abduljaleel Murshid Yanbu Complex Director and GP Executive Advisor

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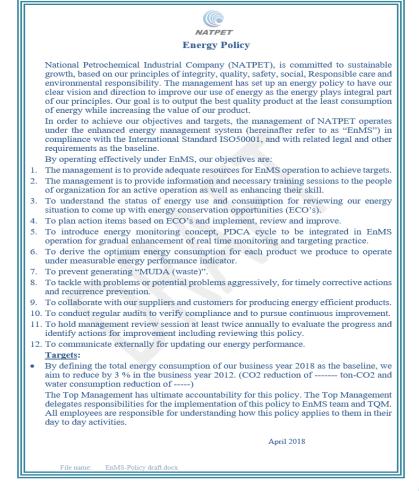
ال<mark>يكية العربية التاني المحدودة الشاعيم المتعومة محدودة ال</mark>سورية. مرزم الرئيسي من 1800 دمية الحالة ليملغة المرية السورية. معرف من 2000 منية سوالمتامع 1818 ملين 1920 من 1920 من 1920 من 1920 من 1920 من السري الميزي 1920 من 1920 من 1920 من 1920 مراسيل الميزي 1920 من 1920 من 1920 من 1920 من 1920 من السري الميزي 1920 من 1920 من 1920 من 1920 من 1920 من 1920 من السري الميزي 1920 من 1920 من





Energy Management

- Process Engineering & Technology Department:
 - Monitoring Energy consumption and advising Technique to end user to keep with in targets
 - Monitoring Resources (Utilities) and Optimizing with the help of end users
 - Monitoring critical equipment forecast that lead to TA and SD advising users
- NATPET Strategy to Reduce utilization of resources:
 - Utility supply agreement amendment have done with the suppliers in order reduce Utilities and Power.









Energy Management (To retain Energy in Targets)

- Daily monitoring of Imported sales gas consumption
- Yearly Steam trap survey to identity passing trap and attend
- Monitoring and stopping unwanted equipment , optimizing with advance control methods
- Streetlights switched off based on photocell and office lights are switched off by Employees before leaving offices (cultural change)
- Monthly Analyzing leading Turn around forecasted equipment's and take necessary steps to enhance the unit run length
- KPI for year 2019 facility level to reduce utilities will be continued in year 2020
- Analyzing and Modifying equipment which leads to longer shutdown and Turn around





NATPET – Customer Focused Organization

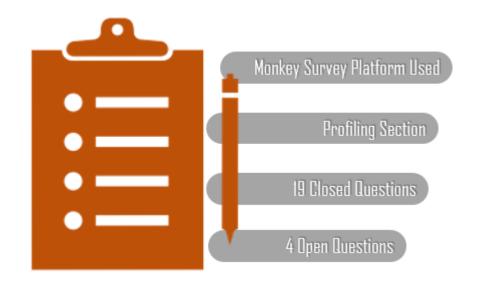
Customer Satisfaction Survey (CSS)

• The CSS was launched in 2016 by a Co-Joint effort from Product Application and Marketing Departments.

The purpose was to better understand our customers needs and to further improve our product and service qualities. It has been set as a biennial action.

- The survey was restricted to customers that have purchased from NATPET in the past two-years.
- No restrictions regarding origin of customer.
- CSS in figures:
- 150 customers contacted.
- 80 total respondents. (53.33% respond rate)
- 73 converters respondents, 7 traders respondents.
- Three major and two minor areas of improvement

LAYOUT OF SURVEY





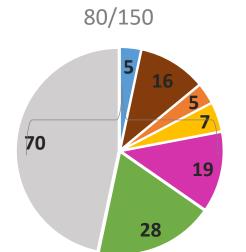


Sample Selection and Calculation Methodology

Respondents Origins & Result

European Countries

- African Countries
- Middle-East Countries
- Americas Countries
- Turkey
- Asian Countries
- Non-Respondants



Rank	Field	Importance Score (Out of 730)	Satisfaction Score (Out of 730)	GAP
1	Consistency in Quality and Performance	658	602	56
2	Services in Order Process	642	573	69
3	Delivered on Time and Quantity	639	556	83
4	Responsiveness of Sales	634	579	55
5	Responsiveness Tech Team	618	579	39
6	Performance Grade vs Comp	614	580	34
7	Price Reasonable vs Comp	609	495	114
8	Grade Improvement	608	553	55
9	Availability of Grades	587	514	73
10	Tech Assistance Effectiveness	586	527	59
11	Technical Information Web	570	561	9
12	Website Appearance	525	538	-13

Lowest Value 📃 Highest Value





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Noticed areas of improvement and actions taken.

Delivery on Time and Quantity

- •Investigate Supply Change regarding Timely and Quantity wise deliveries.
- •Re-evaluate distributor's performance in terms of delivery criteria.

Availability of grades

•Check about the grades availability each month of H25FBA in Turkey •Production Plan to be revisited

Responsiveness of sales team

Africa: Approach our agents for more support to our customersDistributor's performance to be reviewed (especially in Pakistan)

Technical Assistance

- •Communicate with Distributor about this problem.
- Arrange technical training for distributor's team
- •Maintain the performance in Direct Sales regions
- •Arrange session regarding technical awareness for downstream sector

Quality of product and its performance

•Close coordination with QC Lab & Operation to improve further the quality of grades

•To be discussed during upcoming Product Review Committee (PRC) meeting





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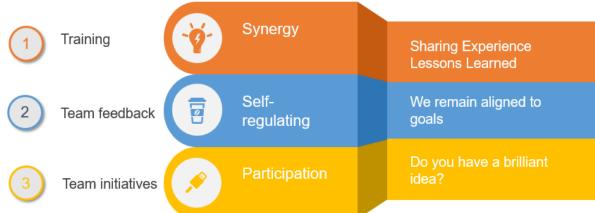
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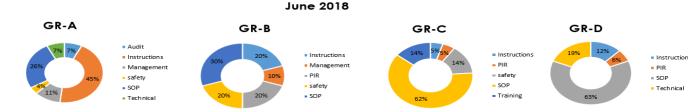
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Commitment to High Quality

Propane dehydrogenation (PDH) – A Highly Reliability Plant





Ahmad Babsail

Fares Abo Shal

131:35 Man-hours in 27 sessions 35:30 Man-hours in 10 sessions 68:15 Man-hours in 21 sessions 89:45 Man-hours in 16 sessions Jasmin Yakob Anil M M. Younas Minhas M Raia Saleem Abdullab H Al Nakhli Mustafa Kamal Shah Vignesh Gopal Sunil Mittapell an Abdullah Sayed ∆li Kazim Mirza Owais Baig Amin Mashudi Kurd

> 1 2

0

Balakrishna Giri









Team Engagements \circ

Maniesh Gurubele Mahbooh Rahman Hani Awaid Al Mehvawi Hiren Kumar D. Pate S. Aru Saleh Bader Nibaihi



Waheeb Abdulmageed

Hisham Hamdi Al Rafai

Abdullah H. Khushaim 💻

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Training Tasks

(OTS)

C. Dineshbhai.

Ali H Saleh Bilharith

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Mirza Owais Baig

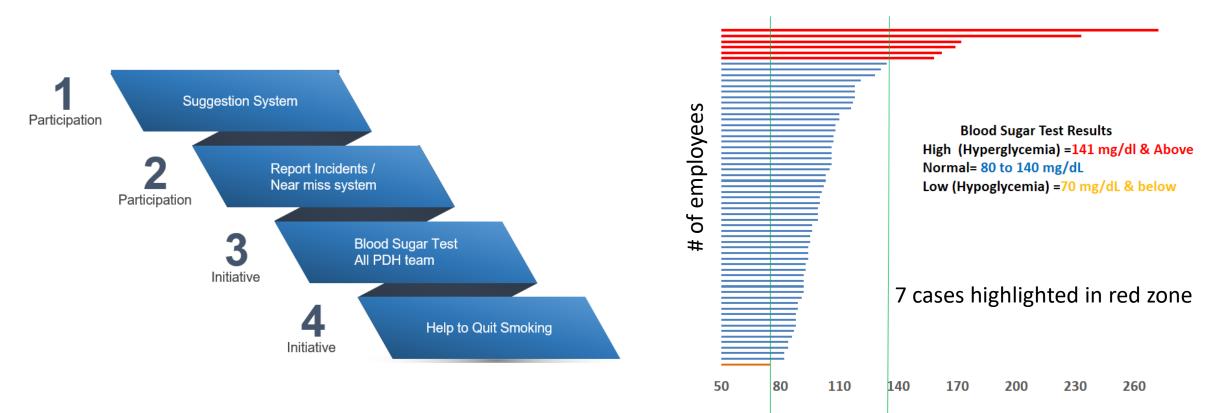
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Online Training Simulator

Employee Participation

Team Participation & Initiatives

Blood Sugar Test Results PDH Plant Staff







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NATPET

Commitment to High Quality - Maintenance

5S Approach

- The way of "learning by doing"
 - Approximately 20% by learning and 80% by doing.
- Application of principles on your work process
- Focused on immediate implementation
- Immediate tangible benefits

The Benefits of 5S

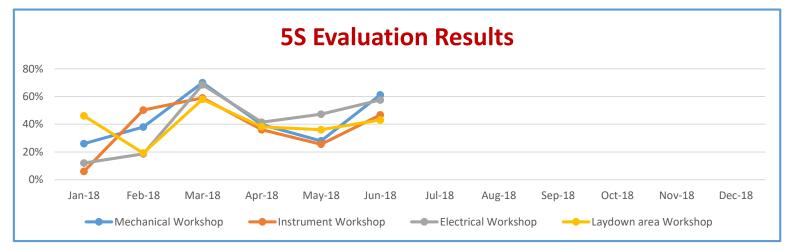
- Less waste (Improved Efficiency).
- Reduced space used for storage.
- Improved Maintenance.
- Improved safety.
- Better, more committed employees.
- Improved Quality.













Information Technology 24/7

- NATPET IT researches and implement cost effective latest solutions that enhance the company ability to provide quality services for all employees of NATPET and JVs to operate successfully.
- Committed to provide:
 - Servers Management
 - Computing
 - SAP/ERP Systems
 - Telecommunications
 - Networking Infrastructure & Security
 - Technical Support
- Service Partners:



Innovative Solutions

- Skype for Business Integration with Cisco IP Phones and mobile devices
- Virtual Private Network
- Ability of Operating all IT Infrastructure Remotely
- PP Economical Grades Dashboard / What-If Analysis
- Migrating to cloud
- Improving Communication MS Exchange 2016
- Improving Intranet portal MS SharePoint 2016
- Dashboards:
 - Dashboards track progress & determine business performance and allow effective business analysis.



Commitment to High Quality - IT

Information Technology 24/7

- SAP Success Factor
 - Develop and improve the performance of individuals and teams.
 - Retain and award valuable employees.
 - Create a two way system of communication between the managers and the employees for clarifying expectations and communicating the functional and organizational goals.
- PI System Upgrade the Plant information Management system
 - Keep all plant data online and available to perform business intelligence or ad hoc analyses in real time, without impacting other users or operations. And it is also integrated with MS SharePoint and PI system which will support our paperless solution
- Virtualization
 - Virtualization is a green technology, it Enables server consolidation consequently the number of physical servers can be reduced. This alone brings benefits such as reduced floor space, power consumption and air conditioning costs.
 - NATPET hosted 40 virtual servers on 15 physical servers.

Information Security

- Firewalls Cisco ASA and WatchGuard
 - Includes network security, system security, application security, virus protection, encryption, data security, audit and monitoring systems and services, etc
- Patch Management
- Vulnerability Testing
- Identity and Access Management
 - Provide secure access to systems and applications and ensure all data is only accessible to the appropriate people.
- Security policy and compliance
 - Emergency Response Plan & Preparedness
 - Risk Management
 - Incident Management
 - Business Continuity
- Paperless: on MS SharePoint





Core Area 5

Responsible Environmental Management

NATPET practices that contribute to the quality of environment on along-term basis.





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Environment Management System

- NATPET methodology on environment sustainability:
 - Management Commitment
 - External Reporting
 - NATPET Environment Initiatives
 - Environmental Management Programs











At National Petrochemical Industrial Company (NATPET), responsible care, quality, health, sterky, security of employee and protection of environment is the prime concern, therefore, NATPET management and employees are committed to perform their duties in safe, secure and healthy manners through risk management, and preventing accident, work related hazards and TQM as a way of business. As a Responsible company employee development, implementing the best practices prevailing in the industry by participation of management, employees and contractors are the main objectives of NATPET QEHSS Programs.

Through a program of continual improvement, NATPET is committed to:

- Comply fully with all relevant QEHSS & Responsible Care standards, guidance and codes of practices, laws and regulations as well as take any additional measures considered necessary, Provide and maintain quality, safe work environment, equipment, systems of work and work facilities to prevent industrial risk and its adverse impact on the environment,
- Creating an environment of teamwork and providing QEHSS information, instructions, training and supervision for employees to enable them to carry out their tasks competently and safely. Follow TQM & safe work practices and continually improve the effectiveness of QEHSS system. Conserve natural resources by their responsible and efficient use in all our operations,
- Investigate any incidents that occurs, implement corrective actions and share the lesson learned with all employees, contractors and other interested parties.
- Line management must be aware and take responsibility for security aspects including cyber security and adherence to company's security regulation is obligatory to all employees,
- Ensure safe transportation, storage and use of chemicals/substances to preserve the health, safety, security and the environment of site and its neighborhood,
- Promote openness with the stockholders for their shared responsibility,
- Periodically review compliances to verify the relevance and any revisions required for further improvement,
- Strive to be amongst the leaders in the field of sustainable development and management of Responsible Care programs for QEHSS, welfare of employees and other stakeholders,

This policy has been endorsed by the President & COO of NATPET, who takes prime responsibility for allocating sufficient resources to ensure its objectives are achieved and Responsible Care requirements are met and available to public and other interested parties.



Dated: 1st September 2014 Document: QEHSS-01, Issue: 1



NATPET Responsible Care Committee Members – 2019/2020



External Reporting

- NATPET External Environmental reporting includes the to the followings:
 - Royal Commission Environmental Control Department
 - Annual Environmental Compliance to RC
 - Stack Emission Monitoring Reports
 - Presidency of Metrology and Environment
 - King Abdullah City of Science and Technology(KACST)
 - King Abdullah city for atomic and Renewable Energy (KACARE)
 - Gulf Petrochemical and Chemical Association(GPCA)







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NATPET

Dear Mr. Ahmed. Ra-Jahlan

henilah Al Zahra

Encl: As above

Thank you Yours sincerel

This is for your information and undat

Please find attached herewith NatPet annual compliance report-2010 in line with RC regulation

Environment Major Milestones

- Zero violation of Royal Commission Environmental Regulations 2015(RCER 2015) & Environmental permit to operate
- 100% compliance to set parameter for Industrial wastewater discharge to MARAFIQ IWTP(Industrial Waste water treatment/Recycling plant).
- 100% compliance of down stream Joint Venture Projects with their relevant Environmental permits
- No Groundwater contamination found as per groundwater sampling and laboratory analysis reports by the RC approved third party.
- CEMS(Continuous Emissions monitoring System) performance in Range with Emission range Set by RC for various Environmental air pollutants i.e. Co2,Cl2,Hcl,SOX, COX.
- Annual Fugitive Emissions performance in line with RC Regulations through GBN(Gulf Business Network) As Approved RC vendor.
- Plant Boundary Noise Survey Conducted and found in line with RC Regulations.
- No incident of leakage for radioactive sources and found in line with KACARE(king Abdullah city of atomic and renewable energy) regulations.
- Environmental Initiatives:
 - Energy Audit Saudi Efficiency program and classified amongst the best
 - Co2 Reduction program
 - Renewable energy program Balderrie Energies Gmbh.
 - The engineering and technical experts of the NATPET contribute in the way of proposing new materials, equipment modification, recycle/reuse of waste.



Protection of Environment from Ionizing Radiation

- NATPET have 29 radioactive sources in PP and PDH plant.
- There is no surface radioactive contamination in accordance with Saudi Arabian National Regulation during the wipe test conducted by third party.
- Comprehensive and detailed radiation protection management program for radiation workers and employees.
- Valid Practice License from concern regulatory authority of KACARE.

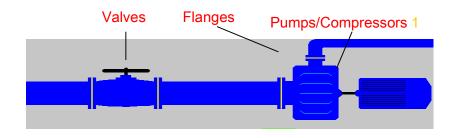
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13 0 14 4 15 0	C4-137 C4-137	LX: 6002A LX: 6002B LX: 6002C LX: 6003	100	2006	Less Than LLD Less Than LLD Less Than LLD Less Than LLD
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King Abdulazi	igdom of Saudi Arabia z City for Science and enter for Radiation Pr	Technology	مدينة الملك عيدا للعلوم والتقنية 1	لوم و التقنية	السائدة العربية الم مدينة الوائد عبد المزيز الم العركز الوائع الحياية م
King Abdulazh National C	City for Science and enter for Radiation Pr ۲۲/۰۲/۲۲ : پ فی ۲۵/۰۳/۰۵ : شی	Technology بيايي rotection بردن قياس النووية منح منح	للملوم والتغنية ا ممارسة أجهزة الا بهذا تم	لورو التقلية د الإشمام د آل ۲۰۰۰ (i – t	مدينة البلغ مبد المزيز للم المركز الوضع المباية ه المركضة : (ق ن-٤٤-
King Abdulazk National C	City for Science and enter for Radiation Pr ۲۲/۰۲/۲۲ : پ فی ۲۵/۰۳/۰۵ : شی	العلم (Technology العلمي (Technology العلمي) العياس التووية منح تتم مياوية (تاتيت) – يذ	للعلوم، والتقنية ا ممارسة أجهزة ال بهذا تم صناعات البتروكو رمَّ السجل التجاري()	ليو، التقنية دايشمام (i-TAT۰) كة الوطنية ل	مدينة البلغ مبد المزيز للم المركز الوضع المباية ه المركضة : (ق ن-٤٤-
King Abdulazk National C	City for Science and enter for Radiation Pr ۲۲/۰۲/۲۲ : پ فی ۲۵/۰۳/۰۵ : شی	المراجع المحمولية المراجع المحمولية محمول المراجع المحمولية معلج المحمولية (تالتيت) - وذ المحمولية (تالتيت) - وذ	للعلوم، والتقنية ا ممارسة أجهزة ال بهذا تم صناعات البتروكو رمَّ السجل التجاري()	بوء، التقية دايشمام دايشمام كة الوطنية لا رخص	مدينة البلغ مبد المزيز للم المركز الوضع المباية ه المركضة : (ق ن-٤٤-
King Abdeker National Co	د داره و در محمد مع هدف (۲/۰۲/۰۲ : مع ن فی : ۱/۰۳/۰۶ : بع الصناعیة	تحدومهایی (یا یا التحدیث التحدیث (یا یا ی	للعلوم، والتقنية معارسة أجهزة ال يهذا تم صناعات البتروكر رقم السجل التجاري (ا بة لمزاولة المعارسة ب	بوء، التقية دايشمام دايشمام كة الوطنية لا رخص	ميدة البله ميداليرينانية البرهز البقع الساينة الم الريقصة : (ق ن – ٤ – – الشريا





Environment Protection Programs

- Programs are implemented across the NATPET and monitored as per USEPA methodology
- Continuous emission monitoring of air pollutants
- Stack emissions monitoring
- Relative Accuracy test Audit of each online analyzer
- Fugitive emissions monitoring program
- Flare emissions monitoring and management.
- Re-use of NaHS solution as byproduct:
 - About 490 Ton NaHS solution re-used as byproduct saving SR 1.47 million.
- Hybrid System Implementation and Reduction of Water discharge:
 - Saving of approximately 30,000 cubic meter of process water per year.
- Third Party (SGS) Confirmation for Ground Water Quality









Monitoring

Reducing GHG

- Minimizing the C2 and C3 flaring by installing special cooler in GPR which will reduce carbon foot print and will save money by saving C2 and C3 burning.
- Flare Lost Optimization
- Catalyst Recycling Project
- Energy benchmarking
- Control valves/Enviro Seal Gland packing
- Installation of Cladding on Reactor Critical joints





Environmental Management Programs

- Industrial hazardous Waste Management Program
- Continuous Catalyst Regeneration Management Program
- Sale and Disposition of Sodium Hydrogen-sulphide Management Program
- Nuclear Gauges Management Program
- Natural Gas Management Program
- Wastewater and Electricity Management Program
- Ground water monitoring system
- Legal requirements for Royal Commission Environmental Regulations
- Noise monitoring management
- Air Quality management system
- Non contact cooling water management
- Process water management
- Industrial waste water management
- Illumination monitoring and industrial Hygiene monitoring program





E-Files Archiving (Sustainability Project)

- Followings are the key features of E-filing project:
 - Utilization of available resources, no external services.
 - Effective utilization of manpower during low work load period.
 - E filing/ scanning of hard copies from 2008 to 2018, around 22,000 files each consist at-lest 10 pages occupying three stores of size 3X2M.
 - No additional cost for the project, utilized available scanner and E storage.
 - Fast recovery of files by just entering the file nr.
 - Sale of existing papers to recycling company (after shredding).
 - Saving around SR 400,000/ Space rent and external service providers cost.







Eco-profile of Polyolefins (HDPE AND PP) IN THE GCC

- Study was carried out in the years 2015 and 2016. The aim was to create an Ecoprofile for HDPE and PP producing the GCC. Eco-profiles assess the environmental impacts along the production chain from «cradle-to-gate».
- The following impact categories were taken into account for the assessment:
 - The climate change, ozone depletion, eutrophication, acidification, particulate matter formation, ionizing radiation, photochemical ozone formation, and resource depletion. Furthermore, primary energy demand and water use were investigated.

Table 1: Results of the LCIA for th	e production of	ethylene, p	propylene, HDPE	, and PP in the	e GCC		
Impact category	Unit	Ethylene	Propylene Steam cracker	Propylene PDH/ Metat.	Propylene Prod. Mix	HDPE	PP
Global Warming Potential	kg CO ₂ eq.	1.21	1.25	1.88	1.51	1.70	1.95
Primary Energy Demand	MJ	73.5	74.9	89.8	81.1	77.8	86.6
Abiotic Depletion Potential, elem.	^{× 10-7} kg Sb eq.	1.05	1.35	6.14	3.34	1.11	3.74
Abiotic Depletion Potential, fossil	MJ	65.51	66.21	80.08	71.98	69.28	76.50
Acidification Potential	g SO ₂ eq.	2.86	1.55	2.09	1.78	3.82	2.94
Particulate Matter (PM10)	g PM10 eq.	2.30	1.63	2.20	1.87	3.25	2.91
Eutrophication Potential	g PO ₄ eq.	0.19	0.20	0.42	0.29	0.32	0.40
Ozone Depletion Potential	^{×10-3} g CFC11 eq.	0.21	0.22	0.41	0.30	0.34	0.40
Ionizing Radiation	g U235 eq.	2.48	2.87	5.73	4.06	7.38	8.36
Photochemical Ozone Formation	g C ₂ H ₄ eq.	1.15	1.10	1.54	1.28	1.82	1.84













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