

June 25, 2021

## Keeping it Cold – Food Integrity & Security

Amid this COVID-19 pandemic and lockdowns, refrigeration has been important for food security that feeds the nation.

The technology of keeping cold has tremendous impact on our daily lives and the food we consume safely. Refrigeration have been used to safely extend product shelf life, or make products marketable such as fruits and vegetables, or for frozen goods.

Today, we have an extensive variety of food products (eg seafood, ready meals, meat products, cakes, ice cream, beverages, milk or dairy products etc) that would not be possible without refrigeration.

During times such as bumper harvests, epidemic, or lockdown, many farmers or manufacturers are faced with excess products such as durians, corn, fish or chicken that needs to be properly processed, frozen and stored till it can be shipped. Without refrigeration, these products would be lost.



Many food products are frozen at  $-40^{\circ}\text{C}$  temperatures. These freezers can be manual or automated, depending on capacity. Once the products are frozen, it needs to be stored in a cold environment such as cold storage rooms (often around  $-20^{\circ}\text{C}$  or colder).

When disruptions in the logistics chain occur, it interrupts food distribution cycles. This creates a need for refrigerated warehouse space to hold chill or frozen cargo. During our lockdown in 2019 thru 2020, the growth of larger cold-storage warehouses with automation has kept our food flowing to our tables.

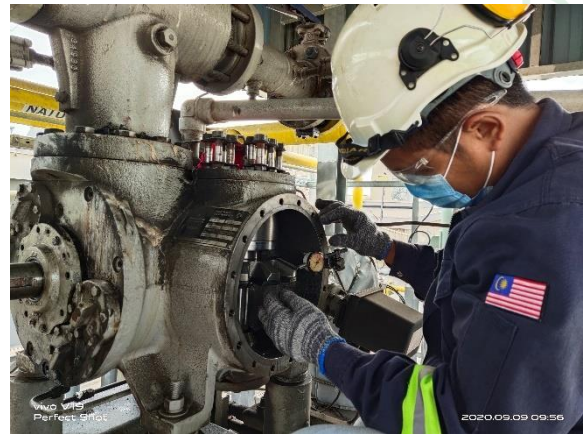


Even thru these challenging times, our dedicated team of engineers and technicians worked to help to keep these freezers, chillers or cold warehouses with stable temperatures for integrity of the food products stored, be it your favorite beverage, fruits and vegetables or pre-frozen cargo with our customers.

**Going green**, we harnessed the power of natural refrigerants like ammonia, or CO<sub>2</sub> with designs of our chilling or freezing systems that offer low power costs and does not contribute to **Global Warming** or impact **Climate Change**. Even our own office air-conditioning uses our hybrid cooling system using ammonia to generate chilled water.

**NRS Process Systems** offers more than just food preservation of fine tasting food products, but also cooling systems for computer chips, pharmaceutical products and power generation. We have even cooled a maze for irradiation of products to kill bacteria.

With more than 33 years of industry experience, our knowledge, expertise and support has kept pace with the latest technology advances to ensure safe, reliable and efficient systems, for the many in the industries we serve.



## Company Bio

**NRS Process Systems Sdn Bhd** is a company registered in Malaysia (Registration 171225-K). NRS has been involved in engineering of cooling, freezing and gas compression business for industries for over 35 years.

Tel (O) : +60 19 470 7985

Website : [www.nrs.com.my](http://www.nrs.com.my)

Note: All photos in this presentation are owned by NRS Process Systems Sdn Bhd.

## Author Bio

**Mr Chew Soon Jin** is the technical director of the company with over 33+ years industry experience. He is a member of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), and member of IIAR (International Institute of Ammonia Refrigeration, USA), and member of Eurammon (an association of companies, institutions and individuals to encourage a sustainable approach to refrigeration engineering). Mr Chew is currently the chair of ASHRAE (Malaysian Chapter) on Refrigeration, and speaks on the use of Natural Refrigerants with DOE and other forums.

Cell : +60 19 445 5435

Email : [sjchew@nrs.com.my](mailto:sjchew@nrs.com.my)